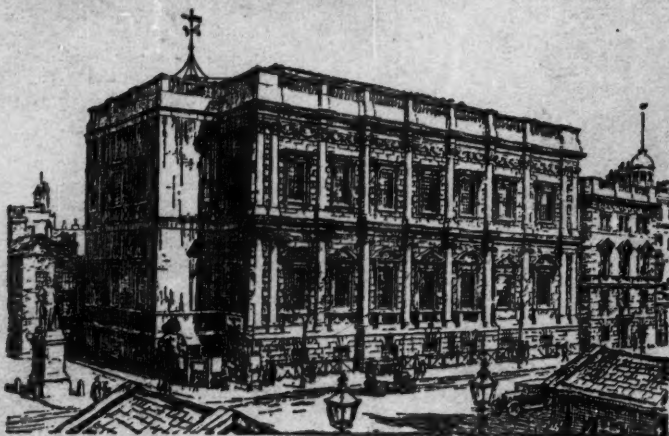


AUGUST 1940



JOURNAL



Royal United Service Institution

WHITEHALL, LONDON, S.W.1

ALL RIGHTS
RESERVED

PUBLISHED
QUARTERLY

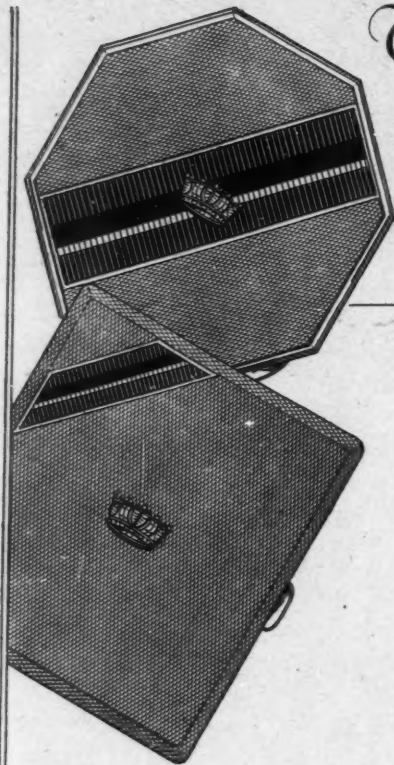
Price Seven Shillings and Sixpence

Advertising Manager

H. CLAYTON, 150 STRAND, W.C.2.

Telephone: Temple Bar 3966

The Badge of your Unit



Sterling Silver Vanity
Case with colours in en-
amel and mounted Silver
Badge, 3" wide - £3 0 0

Cigarette Case 3½" x 3½"
£4 2 6

May we send you illustrations of
other sizes which are available?

Please note that all Prices are subject
to revision



Diamond and Enamel
Brooch £46



Diamond and Enamel
Brooch £40
18 carat Gold and
Enamel £5

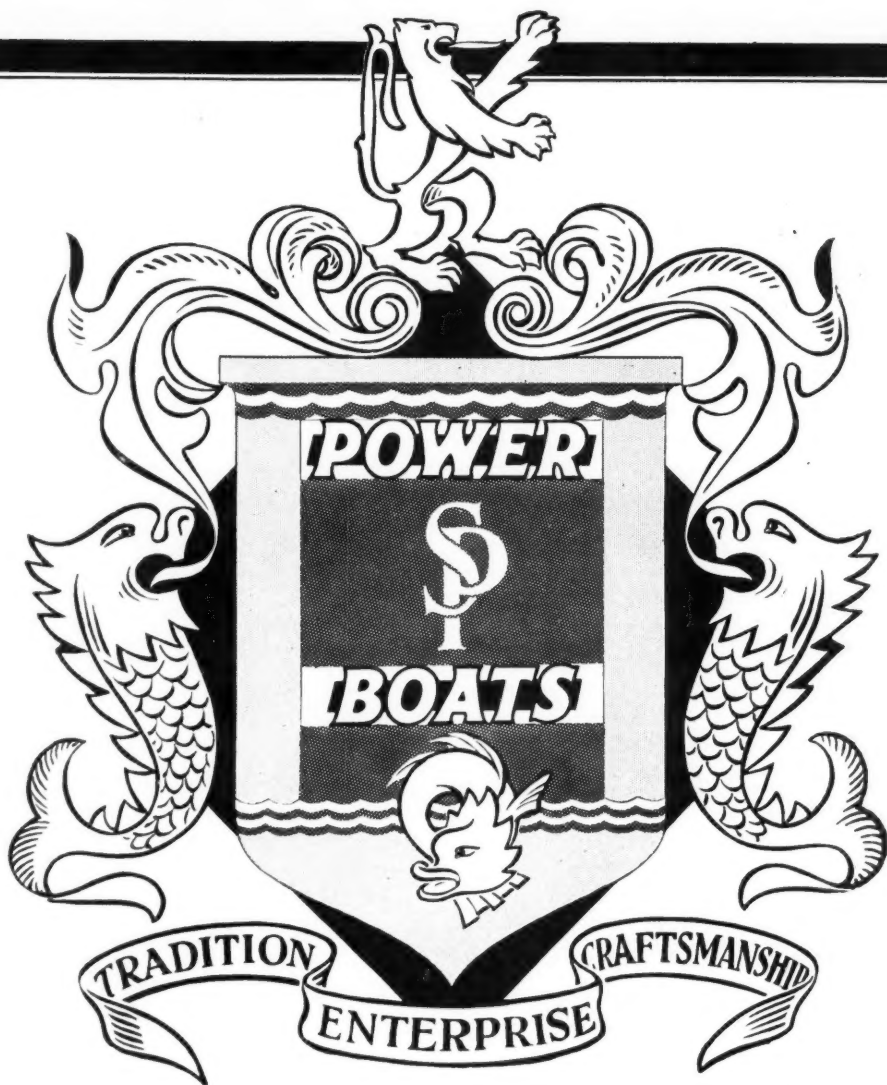


Diamond and Enamel
Brooch £27
18 carat Gold and
Enamel £6 10 0

THE GOLDSMITHS & SILVERSMITHS
COMPANY LTD

112 REGENT STREET · LONDON · W.1

WARNING—NO OTHER ADDRESS



THE BRITISH POWER BOAT CO., LTD.

Hythe

Southampton

England

Telephone: Hythe, Southampton 201 (10 lines). Telegrams: **POWER** Hythe, Southampton.

Chairman
Hubert Scott-Paine

Designers and Constructors of High-Speed Motor Craft for
Attack, Defence, Training and Service. Contractors to the
Admiralty, War Office, Air Ministry, Dominion, Colonial and
Foreign Governments.

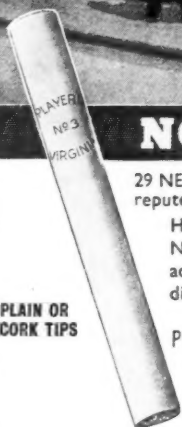


NOTABLE NUMBERS

29 NEW ST., WORCESTER. King Charles' House—where, it is reputed, the King took refuge after the Battle of Worcester 1651.

Hospitality finds eloquent expression in that other Notable Number—Player's No. 3. In the world of cigarettes it is acknowledged supreme for mellowness, for distinction of flavour—in short, for finer quality.

PLAIN OR
CORK TIPS



PLAYER'S

NUMBER 3
EXTRA QUALITY CIGARETTES



WESTLAND LYSANDER"
ON ACTIVE SERVICE

WESTLAND

WESTLAND AIRCRAFT LIMITED

YEOVIL

ENGLAND

Recent tests indicate this to be the
WORLD'S MOST POWERFUL
SEMI-AUTOMATIC
AND EXTREMELY ACCURATE AT ALL RANGES



Rifle Type R Military
 Bayonet—Sword type (Dagger type optional).



Rifle Type V Military
 Bayonet—Dagger type (Sword type optional).



High Powered Ammunition
 All Johnson "Automatics" function with 38,000 to 68,000 pounds per square inch explosive pressure.

SEMI-AUTOMATIC RIFLE. CALIBER: .30-'06 (M1) or any other military caliber. ACTION: Johnson short-recoil. FIRE CYCLE: 1/10 second. MAGAZINE CAPACITY: TYPE R: 10-shot built-in rotary feed. Can be loaded instantly at any time with cartridges singly or in clips with bolt opened or closed and regardless of whether magazine is wholly or partially empty. TYPE V: 5- or 10-shot vertical feed detachable box. WEIGHT: 9.5 pounds. BAYONETS: SWORD TYPE—a powerful, instantly detachable hand weapon ruggedly mounted at head of barrel sleeve—24-inch over-all length, 20-inch T-shaped blade extending 11 inches beyond muzzle—its broadly distributed weight of 9/10-pound gives excellent balance. DAGGER TYPE—a lightweight, strong, powerful weapon with 8-inch T-shaped blade mounted at muzzle; WEIGHT: 1/2-pound. Accuracy and automatic functioning not impaired with Sword or Dagger Bayonet attached.

MILITARY TRAINING Ease of handling, simplicity, and similarity of Johnson mechanisms enable quicker training of machine gunners and riflemen.

MAINTENANCE. FIELD STRIPPING: Quick—simple—only 12 basic parts—no tools required for rifles or machine guns. BARRELS: Instantly removable; also instantly interchangeable between Johnson rifles and machine guns. LUBRICATION: Not dependent on lubricants for functioning. CONSTRUCTION: Built to withstand long wear and severe abuse. Reliable, simple, rugged, and excellently balanced.



Light Machine Gun Type V Military

LIGHT MACHINE GUN. CALIBER: .30-'06 (M1) or any other military caliber. ACTION: Johnson short-recoil. WEIGHT: 12 pounds. CYCLIC RATE VARIABLE: 300 to 1,000 rounds per minute. MAGAZINE CAPACITY: TYPE V: 10-, 15-, or 20-shot vertical feed detachable box. TYPE R: 30-, 40-, or 50-shot built-in rotary feed, clip loaded (Springfield-type clip). ACCURACY: No climb—can be accurately aimed and controlled as a shoulder weapon.

CANADIAN AUTOMATIC ARMS COMPANY LTD.

414 ST. JAMES STREET WEST, MONTREAL, CANADA

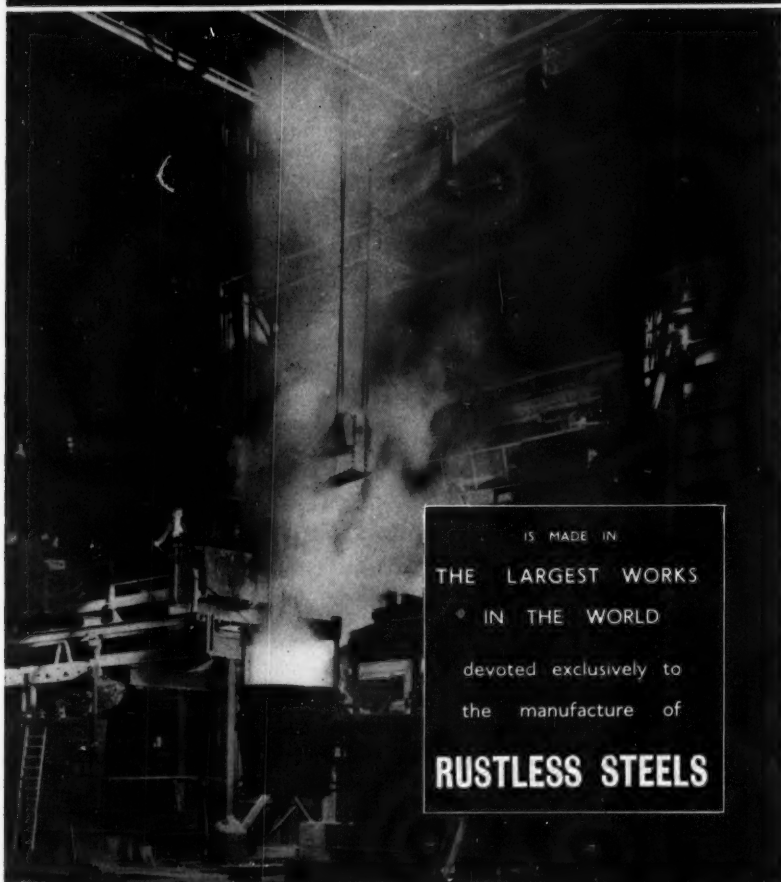
Licensee of Johnson Automatics, Inc., Boston, Mass. and New York, N.Y., U.S.A.

JOHNSON AUTOMATICS

"STAYBRITE"

SUPER RUSTLESS STEEL

Ideal in Home & Industry



IS MADE IN
THE LARGEST WORKS
♦ IN THE WORLD
devoted exclusively to
the manufacture of
RUSTLESS STEELS

FIRTH VICKERS STAINLESS STEELS LTD. SHEFFIELD

Recent tests indicate this to be the
WORLD'S MOST POWERFUL
SEMI-AUTOMATIC
AND EXTREMELY ACCURATE AT ALL RANGES



Rifle Type R Military
 Bayonet—Sword type (Dagger type optional).



Rifle Type V Military
 Bayonet—Dagger type (Sword type optional).



High Powered Ammunition
 All Johnson "Automatics" function with 38,000 to 68,000 pounds per square inch explosive pressure.

SEMI-AUTOMATIC RIFLE. CALIBER: .30-'06 (M1) or any other military caliber. ACTION: Johnson short-recoil. FIRE CYCLE: 1/10 second. MAGAZINE CAPACITY: TYPE R: 10-shot built-in rotary feed. Can be loaded instantly at any time with cartridges singly or in clips with bolt opened or closed and regardless of whether magazine is wholly or partially empty. TYPE V: 5- or 10-shot vertical feed detachable box. WEIGHT: 9.5 pounds. BAYONETS: SWORD TYPE—a powerful, instantly detachable hand weapon ruggedly mounted at head of barrel sleeve—24-inch over-all length, 20-inch T-shaped blade extending 11 inches beyond muzzle—its broadly distributed weight of 9/10-pound gives excellent balance. DAGGER TYPE—a lightweight, strong, powerful weapon with 8-inch T-shaped blade mounted at muzzle; WEIGHT: 1/2-pound. Accuracy and automatic functioning not impaired with Sword or Dagger Bayonet attached.

MILITARY TRAINING Ease of handling, simplicity, and similarity of Johnson mechanisms enable quicker training of machine gunners and riflemen.

MAINTENANCE. FIELD STRIPPING: Quick—simple—only 12 basic parts—no tools required for rifles or machine guns. BARRELS: Instantly removable; also instantly interchangeable between Johnson rifles and machine guns. LUBRICATION: Not dependent on lubricants for functioning. CONSTRUCTION: Built to withstand long wear and severe abuse. Reliable, simple, rugged, and excellently balanced.



Light Machine Gun Type V Military

LIGHT MACHINE GUN. CALIBER: .30-'06 (M1) or any other military caliber. ACTION: Johnson short-recoil. WEIGHT: 12 pounds. CYCLIC RATE VARIABLE: 300 to 1,000 rounds per minute. MAGAZINE CAPACITY: TYPE V: 10-, 15-, or 20-shot vertical feed detachable box. TYPE R: 30-, 40-, or 50-shot built-in rotary feed, clip loaded (Springfield-type clip). ACCURACY: No climb—can be accurately aimed and controlled as a shoulder weapon.

CANADIAN AUTOMATIC ARMS COMPANY LTD.

414 ST. JAMES STREET WEST, MONTREAL, CANADA

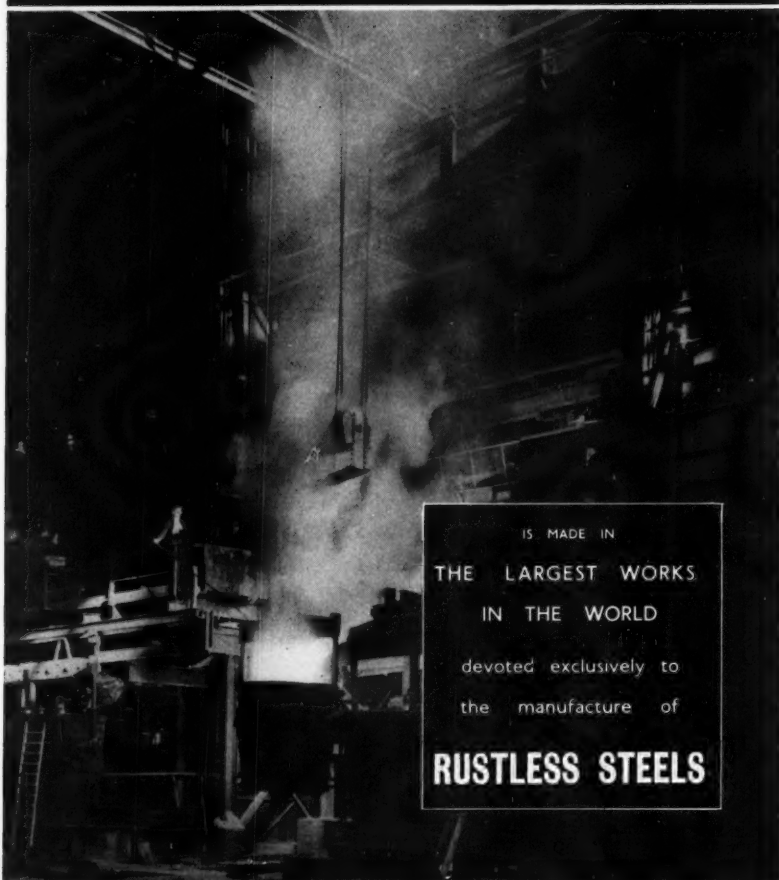
Licensee of Johnson Automatics, Inc., Boston, Mass. and New York, N.Y., U.S.A.

JOHNSON AUTOMATICS

"STAYBRITE"

SUPER RUSTLESS STEEL

Ideal in Home & Industry



IS MADE IN
THE LARGEST WORKS
IN THE WORLD
devoted exclusively to
the manufacture of

RUSTLESS STEELS

FIRTH VICKERS STAINLESS STEELS LTD. SHEFFIELD



N. A. A. F. I.

SERVES THE SERVICES

It belongs to them, is controlled by them, and aims at promoting their interests in every way.

THERE ARE NO SHAREHOLDERS

and all surplus revenue is returned to the Services in rebate, discount and other schemes for the benefit of the Services.

THE N.A.A.F.I. SUPPLIES EVERYTHING

but is strictly limited to dealing with Serving Members of the Regular Forces, their wives and families, and Territorials during Annual Training.

Headquarter Offices :

IMPERIAL COURT, UPPER KENNINGTON LANE, LONDON, S.E.11

Carlisle & Gregson

JIMMY'S

(Established over 50 Years)

5, Lexham Gardens, Kensington, W.8

STAFF COLLEGES, PROMOTION,

All SERVICES Entrance Examinations

:: and UNIVERSITIES. ::

Telegraphic Address: "Lexjam, Kens, London."

Telephone: Western 1287.



Firth-Brown Carbide is the most
wonderful material for the
speediest cutting of even the
toughest of special steels.

THOS. FIRTH & JOHN BROWN LTD SHEFFIELD

METROPOLITAN SERVICES COLLEGE

ST. ALBANS

The Leading Army Tutors

- Invaluable Refresher Courses for Officers selected for entry to the Staff College

All Tuition Conducted through the convenient medium of the post.

WRITE FOR PARTICULARS, STATING YOUR REQUIREMENTS to the Secretary, M4, Metropolitan Services College, St. Albans, England

The Society for Army Historical Research

THIS Society was founded in 1921, with the object of encouraging research into Army Antiquities, matters connected with Regimental Histories, Uniforms, Dress and Equipment of the past. Old Military Customs and Traditions, the Art of War in bygone days, Pictures, Prints, Medals and Relics, and similar subjects of interest.

The Society publishes a quarterly Journal and occasional Monographs, copies of which are sent, post free, to all Members.

"Notes, Questions and Replies" form a prominent feature (occupying about one-third of the Journal), with the object of fostering a spirit of enquiry into the history of the Army.

All interested in the History of the Army, civilians as well as soldiers, are invited to join and to contribute articles. Libraries, Clubs, Societies and Regiments may, through their representatives, be admitted to Membership.

Annual Subscription £1 1s. 0d.

APPLY TO THE HON. SECRETARY, c/o WAR OFFICE LIBRARY
WHITEHALL, LONDON, S.W.1



Bringing home the B.E.F.

When the full story of this epic of bravery and endurance comes to be written many pages will be needed to record the gallantry and perseverance of the British Navy in the face of incredible difficulties.

And, too, for the volunteer crews and their motley armada of small craft, hastily collected, who time and again returned unflinchingly to that inferno off Dunkirk and without whom thousands of our troops could not have been withdrawn.

Typical of the latter is the 13-year-old Thornycroft 30ft. cruiser 'Quisisana' shown above returning from one of her many trips with a full load.

Hats off to a gallant crowd !



JOHN I. THORNYCROFT & CO., LIMITED, THORNYCROFT HOUSE, LONDON, S.W.1.



VICKERS- ARMSTRONGS LIMITED

**SHIPBUILDERS, ENGINEERS,
ARMAMENT AND
AIRCRAFT CONSTRUCTORS**

—
**SHIP REPAIRS AND
RECONDITIONING**
—

Head Office :
VICKERS HOUSE, BROADWAY, LONDON, S.W.1



CONTENTS FOR AUGUST, 1940

	Page
Secretary's Notes	ix
Frontispiece: The return of The British Expeditionary Force—1940	
Operations of the British Expeditionary Force in Belgium and Northern France	393
A Neutral View of the German-Polish War. By Lieut.-Colonel Dinulescu	399
Winged Armies. By Lieut.-Colonel J. T. Godfrey, R.E. p.s.c.	407
Coast-Attack Ships in the late War	422
Anti-Aircraft Artillery	431
The United States Navy. By Francis McMurtrie, A.I.N.A.	437
U.S.A. Types of Aircraft	445
Plates: U.S.A. Types of Aircraft	
War and the Business Man. By Major H. J. Cooper, R.A.S.C. (ret.)	453
Royal Squadron, 1939. By "Walrus"	459
The Health of the Soldier in War. By Major Frederic Evans, M.B.E., R.A.M.C.	468
Small Craft in Sea Warfare. By Frank C. Bowen	477
The Violation of Neutral Waters in the Past. By Commander W. B. Rowbotham, R.N.	483
The International Situation:	
The British Empire against Germany and Italy	489
Italy as an Ally by Colonel R. H. Beadon, C.B.E., p.s.c.	491
Diary of the War, 1940	493
Correspondence	574
Navy Notes	576
Army Notes	585
Air Notes	598
Reviews of Books	608
Additions to the Library	615



STANLEY

W. F. STANLEY & CO. LTD.

The Fuller Calculator

The SIMPLEST and QUICKEST
Calculator giving an accuracy of
at least 1—10,000.

RELIABLE and INEXPENSIVE.

W. F. STANLEY & CO. LTD.

Head Showrooms :

286 HIGH HOLBORN, LONDON,
W.C.1

Tel. No. : Hol. 5006

REPAIRS TO REGIMENTAL COLOURS

•
The Royal United
Service Institution can
undertake Repairs to
Regimental Colours,
Standards, Banners,
etc., by skilled workers

•
ESTIMATES AND
EXPERT ADVICE
CAN BE GIVEN



BOSTOCK & KIMPTON LTD.

Wine Merchants Specialising in Service
to Naval Military and Air Force Messes.
17, WATER LANE, 67 TOWER STREET

• LONDON, E.C.3. •

Telephone ————— ROYAL 2759
Telegrams: BOSKINTOCK BILGATS, LONDON

JOURNAL
of the
Royal United Service
Institution

Published by Authority of the Council.



Postal Address : Whitehall, London, S.W.1.

Telephone No. Whitehall 5854.

Telegraphic Address : " Russatus, Parl, London."

Vol. LXXXV. AUGUST, 1940.

No. 539

Advertising Manager :

H. CLAYTON, 150, STRAND, LONDON, W.C.2.

Telephone : Temple Bar 3966.

ROYAL UNITED SERVICE INSTITUTION

FOR

"THE PROMOTION AND ADVANCEMENT OF NAVAL AND MILITARY SCIENCE
AND LITERATURE."

Royal Charter, 22nd February, 1860 (23 Vict.).

PATRON:

HIS MAJESTY KING GEORGE VI.

PRESIDENT:

Field-Marshal H.R.H. The DUKE OF CONNAUGHT, K.G., K.T., K.P., G.C.B.,
G.C.S.I., G.C.M.G., G.C.I.E., G.C.V.O., G.B.E., V.D., T.D.

VICE-PRESIDENTS:

Field-Marshal Sir PHILIP CHETWODE, Bart., G.C.B., O.M., G.C.S.I., K.C.M.G.,
D.S.O.

Admiral Sir GEORGE P. W. HOPE, K.C.B., K.C.M.G.

Field-Marshal Sir CLAUD W. JACOB, G.C.B., G.C.S.I., K.C.M.G.

Brigadier-General The Earl of LUCAN, P.C., G.C.V.O., K.B.E., C.B., T.D.

Field-Marshal Sir ARCHIBALD A. MONTGOMERY-MASSINGBERD, G.C.B.,
K.C.M.G., LL.D.

Marshal of the Royal Air Force The Viscount TRENCHARD, G.C.B., G.C.V.O.,
D.S.O., D.C.L., LL.D.

Admiral Sir R. G. O. TUPPER, G.B.E., K.C.B., C.V.O.

ELECTED MEMBERS OF COUNCIL:

Royal Navy

Vice-Admiral Sir GEOFFREY BLAKE, K.C.B., D.S.O.

Admiral of the Fleet Sir FREDERICK L. FIELD, G.C.B., K.C.M.G.

Admiral Sir W. F. FRENCH, K.C.B., C.M.G.

Admiral Sir WILLIAM GOODENOUGH, G.C.B., M.V.O.

Royal Marines

Lieut.-General ALAN G. B. BOURNE, C.B., D.S.O., M.V.O.

Royal Naval Reserve

Captain Sir D. WILSON-BARKER, Kt., R.D., R.N.R.

Royal Naval Volunteer Reserve

Commodore The Earl Howe, C.B.E., V.D., R.N.V.R.

Regular Army

General Sir Walter M. St. G. KIRKE, G.C.B., C.M.G., D.S.O.

General Sir HARRY H. S. KNOX, K.C.B., D.S.O. (*Chairman of the Council*)

Major-General J. R. M. MINSHULL-FORD, C.B., D.S.O., M.C.

General Sir ROBERT WHIGHAM, G.C.B., K.C.M.G., D.S.O.

Militia

Brigadier-General S. E. MASSY-LLOYD, C.B.E.

Territorial Army

Colonel J. K. DUNLOP, O.B.E., M.C., T.D.
Colonel J. JOSSELYN, C.M.G., D.S.O., O.B.E., T.D.
Colonel F. D. SAMUEL, C.B.E., D.S.O., T.D.
Colonel B. ABEL SMITH, D.S.O., M.C., T.D., A.D.C.

Indian Army

General Sir S. F. MUSPRATT, K.C.B., C.S.I., C.I.E., D.S.O.

Royal Air Force

Marshal of the Royal Air Force Sir EDWARD ELLINGTON, G.C.B., C.M.G., C.B.E.
(Vice-Chairman of the Council)
Air Marshal E. L. GOSSAGE, C.B., C.V.O., D.S.O., M.C.

REPRESENTATIVE MEMBERS

ADMIRALTY

Director of Naval Intelligence : Rear-Admiral J. H. GODFREY, C.B.

WAR OFFICE

Director of Staff Duties : Major-General E. L. MORRIS, O.B.E., M.C.

AIR MINISTRY

Director of Staff Duties : Air Commodore A. J. CAPEL, D.S.O., D.F.C.

EX-OFFICIO MEMBERS

First Sea Lord and Chief of the Naval Staff : Admiral of the Fleet Sir A. DUDLEY
P. R. POUND, G.C.B., G.C.V.O.

Chief of the Imperial General Staff : General Sir John G. DILL, K.C.B., C.M.G.,
D.S.O.

Chief of the Air Staff : Air Chief Marshal Sir C. L. N. NEWALL, G.C.B., C.M.G.,
C.B.E., A.M.

Deputy Adjutant General (T) : Lieutenant-General Sir JOHN BROWN, K.C.B., C.B.E.,
D.S.O., T.D.

President of the Royal Naval College, Greenwich :

Commandant of the Imperial Defence College :

Director of the Royal Naval Staff College :

Commandant of the Staff College, Camberley : Major-General R. J. COLLINS,
C.B., C.M.G., D.S.O.

Commandant of the R.A.F. Staff College, Andover :

HONORARY MEMBERS OF THE COUNCIL

Major-General H. C. THACKER, C.B., C.M.G., D.S.O. (Canada).

General Sir HENRY G. CHAUVEL, G.C.M.G., K.C.B. (Australia).

Major-General Sir A. H. RUSSELL, K.C.B., K.C.M.G. (New Zealand).

General *The Right Hon.* J. C. SMUTS, P.C., C.H. (South Africa).

General H.H. THE MAHARAJAH OF BIKANER, G.C.S.I., G.C.I.E., G.C.V.O., G.B.E.,
K.C.B. (India).

STAFF

Secretary, Editor and Chief Executive Officer :

Librarian : Colonel E. L. HUGHES, D.S.O., O.B.E.

Assistant Editor :

Curator and Assistant Executive Officer : Captain S. J. PARKER, M.C., D.C.M.

Assistant Librarian :

Auditors : MESSRS. BARTON, MAYHEW & CO.,

Alderman's House, Bishopsgate, E.C.2.

Bankers : ROYAL BANK OF SCOTLAND, DRUMMOND'S BRANCH,
Charing Cross, S.W.1.

MEMBERSHIP

Full particulars of Membership with alternative forms for Bankers' Orders can be obtained on application to "The Secretary, Royal United Service Institution, Whitehall, London, S.W.1."

Commissioned Officers of *all* H.M. fighting Services, including those of the Dominions, Colonies and India, and Midshipmen and equivalent ranks of the Royal Navy, Dominion Navies, Royal Naval Reserve and Royal Naval Volunteer Reserve, are eligible for membership without proposal or ballot.

Naval, Military and Air Force Cadets are eligible on the recommendation of their Commanding Officers.

Gentlemen enrolled in establishments which imply that they will be given commissions in time of national emergency are eligible for membership by ballot of the Council.

An Officers' Mess may subscribe to the JOURNAL, but is *not* eligible for membership.

TERMS OF SUBSCRIPTION

ANNUAL MEMBERS.—Subscription £1 5s. od., payable on joining and on 1st January yearly. (NOTE.—The Entrance Fee has been temporarily suspended).

LIFE MEMBERS.—

- (a) £20 os. od., payable in one sum or;
- (b) £21 os. od., payable in four instalments of Five Guineas, the first on joining, the others on 1st January of each succeeding year.

The above rates of subscription entitle Members to the loan of four volumes at a time from the Library, provided they are at Home or at those stations abroad where arrangements exist for forwarding books.

It is important that Officers joining should furnish full and clear particulars of their Name, Rank, Ship, Regiment or R.A.F. Squadron, etc., and the address to which they wish their JOURNALS sent.

Officers of the Indian, Dominion and Colonial Naval, Military, and Air Forces temporarily in the United Kingdom may become members for a period of six months on payment of Ten Shillings and Sixpence, or One Guinea for twelve months. The additional subscription to the Lending Library is Five Shillings for six months.

THE INSTITUTION

The Royal United Service Institution is situated just below the War Office in Whitehall. It has the best professional Library in the United Kingdom. The Reading and Smoking Rooms are provided with the leading papers, periodicals and writing materials.

The Institution is open daily from 10 a.m. to 7 p.m., except Sunday, Christmas Day and Good Friday.

THE JOURNAL

The R.U.S.I. JOURNAL is published quarterly and sent post free to Members in any part of the world. Copies may be purchased by non-members, price 7s. 6d.

THE MUSEUM

The R.U.S. Museum is closed for the duration of the War.

THE THEATRE

The Lecture Theatre is at present devoted to a Special Exhibition representing "The Fighting Services in the Present War".

SECRETARY'S NOTES

August, 1940.

COUNCIL

Representative Members

Air Commodore A. J. Capel, D.S.O., D.F.C., has succeeded Air Commodore R. P. Willock as Air Ministry Representative.

Ex-Officio Members

General Sir John Dill, K.C.B., C.M.G., D.S.O., has succeeded Field Marshal Sir W. Edmund Ironside, G.C.B., C.M.G., D.S.O., on taking up the appointment of Chief of the Imperial General Staff.

New Members

The following officers joined the Institution during the period 17th May to 31st July :—

ROYAL NAVY

Captain J. R. Garrett, Royal Marines.
Commander G. A. Saltren-Willett, R.N.

ARMY

Captain J. P. Manson, 3/11th Sikh Regiment (Rattray's Sikhs).
Lieutenant F. H. B. E. Wilding, 2/12th Frontier Force Regiment.
2nd Lieutenant B. R. Pearson, 3rd Battn. 2nd Punjab Regiment, I.A.
Colonel C. B. Stephenson, The North Staffordshire Regiment.
Major Mervyn Crawford, The Middlesex Regiment.

Trench Gascoigne Prize

The following subject has been selected by the Council for the Trench Gascoigne Prize Competition (Three Services) 1940 :—

" How have the lessons of the War of 1914-1918 been confirmed or modified by the experiences of the Present War up to date ? "

Particulars of the competition will be found in the leaflet enclosed in the February JOURNAL, additional copies of which can be obtained on application to the Secretary.

No award of the Gold Medal of the Institution will be made during the War.

LIBRARY

Hours of Opening

The Library is open on Week Days from 9 a.m. to 6 p.m., except Saturdays, when it is closed at Noon.

JOURNAL

Publication

The Service Departments have signified that they will continue to give facilities

for the publication of the R.U.S.I. JOURNAL, and serving officers are invited to offer suitable contributions.

Matter which might be of value to the enemy must, of course, be entirely eliminated; but there is still ample scope for professional articles relating to former campaigns, especially the War of 1914-18, which might contain useful lessons at the present time; also contributions of a general Service character such as Strategic Principles, Command and Leadership, Morale, Staff Work, Naval, Military and Air Force history, customs and traditions.

MUSEUM

Special Exhibition

A Special Exhibition depicting "The Services in the War" is now showing in the Institution's Theatre.

It consists of models of present-day warships, Service ordnance, mechanized units, and aircraft; bombs, shells, etc.; enlarged photographs of war scenes and incidents; badges of rank and regimental badges.

War relics are being added as they become available, and Members are invited to lend any which may come into their possession and which are of particular interest, observing that space is always a serious consideration.

The Exhibition is open from 10 a.m. to 5 p.m. on Week Days.

Admission 3d. Free to H.M. Forces in Uniform.

CHANGES OF ADDRESS

Members are particularly requested to notify any change of address which will affect the dispatch of their JOURNALS.

Such notifications should be received by the 10th of the month preceding publication; i.e., by 10th January, April, July and October.

Journals which have been returned through the post owing to failure of delivery are being held pending application from Members to whom they were addressed.

Christmas Cards

A Christmas card specially designed for Members of the Institution will be available and orders can now be booked.

Members are requested to make early application for the number of cards they require.

BOOKS AND PERIODICALS FOR THE SERVICES

The attention of readers is drawn to the appeal for books and periodicals for the fighting services. Contributions are accepted at most Post Offices, unaddressed and unwrapped, for transmission free of charge to the Service Libraries and Books Fund, Finsbury Barracks, City Road, E.C.1.

**THE EVACUATION OF THE
BRITISH EXPEDITIONARY FORCE
FROM NORTHERN FRANCE
1940**

THE KING'S MESSAGE

The following message was received on 3rd June from the King by the Prime Minister and Minister of Defence:—

“ I wish to express my admiration of the outstanding skill and bravery shown by the three Services and the Merchant Navy in the evacuation of the British Expeditionary Force from Northern France. So difficult an operation was only made possible by brilliant leadership and an indomitable spirit among all ranks of the Force. The measure of its success—greater than we had dared to hope—was due to the unfailing support of the Royal Air Force and in the final stages the tireless efforts of Naval Units of every kind.

“ While we acclaim this great feat in which our French Allies, too, have played so noble a part, we think with heartfelt sympathy of the loss and sufferings of those brave men whose self-sacrifice has turned disaster into triumph.

“ (Signed) GEORGE R.I.”



Crown Copyright Reserved

THE RETURN OF THE BRITISH EXPEDITIONARY FORCE—1940

From the drawing by Sir Muirhead Bone

THE JOURNAL

of the

Royal United Service Institution

Vol. LXXXV.

AUGUST, 1940

No. 539.

[Authors alone are responsible for the contents of their respective Papers. All communications, except those for perusal by the Editor only, should be addressed to the Secretary, Royal United Service Institution.]

THE OPERATIONS OF THE BRITISH EXPEDITIONARY FORCE IN BELGIUM AND NORTHERN FRANCE

IN spite of German claims to the contrary, the British Expeditionary Force has not been beaten in the field. It could have continued to offer prolonged resistance on its own front ; but it could not prevent enemy penetration on other parts of the front held by the Belgian and French armies. Owing to these German incursions it was compelled to withdraw in order to avoid encirclement. These facts are made abundantly clear by details which have lately become known of the operations in Belgium and Northern France during the period 10th May — 2nd June, 1940.

These activities fall naturally into three main phases.

THE FIRST PHASE—10TH TO 15TH MAY¹

On the 10th May, Belgium was invaded without warning by the German armed forces and appealed to Great Britain and France for military aid.

The B.E.F., which was already in France, was not an independent formation but had been placed by the British Government under the orders of the French High Command. In conformity with this decision, General Lord Gort, C.-in-C., received his orders for the ensuing operations through General Georges, Commander of the French North-Eastern front. Plans had been prepared by General Georges for an advance into Belgium in the event of such an appeal being made, but owing to the short-sighted adherence of the Belgian Government to their strict interpretation of "neutrality" it had not been possible to co-ordinate these plans by detailed arrangements with the Belgian General Staff.

However, no time was lost and on the same day, the British and French Armies marched into Belgium where they were enthusiastically received by the civilian population and by the Belgian army. By the

¹ See Situation Maps facing p. 398.

same evening, British mechanized troops had taken up a position on the line of the River Dyle, East of Brussels, from Louvain to Wavre. These forces included the 12th Royal Lancers (mechanized), whose exploits during the next three weeks most worthily upheld the splendid traditions of the regiment and of the mounted arm.

The position on the Dyle was occupied by the Ist Corps (1st, 2nd and 48th Divisions) and by the IIInd Corps (3rd and 4th Divisions) and put in a state of defence. The disposition of Divisions from right to left ran as follows: 2nd, 1st, 4th, 3rd, flank Divisions establishing touch with the French First Army on the right and the Belgian Army on the left; the 48th Division was held in reserve. The Army Tank Brigade moved by rail to the Forest of Soignies. The 5th Division moved by M.T. to an area South-West of Brussels in support of the Ist Corps, while the 50th Division reached the line of the river Dendre, West of Brussels, where all crossings were prepared for demolition. The IIIrd Corps occupied the line of the river Escaut in support, with the 44th Division in the North and the 42nd Division in the South.

During this period, part of the 23rd Division was disposed to deal with parachutist activities on various unoccupied aerodromes. Elements of the 12th and 46th Divisions, the infantry of which were on a low scale of armament, were brought up and one infantry brigade of the 46th Division took over road control and anti-sabotage duties on the roads and in the area between the Dendre and the Escaut.

So far as the B.E.F. was concerned, therefore, the operations had up to now proceeded smoothly and according to plan, and enemy attacks on the line Louvain - Wavre were repulsed.

Then came the failure of the Belgian Army to hold or destroy the Maastricht bridges. This enabled the enemy to make full use of the Aachen-Maastricht railway system in their incursion towards the West. The air situation, though difficult, was not critical; more fighters from home had been put at the disposal of the Air Component; and night bombers were available, although some trouble was experienced in co-ordinating their tasks with the urgent requirements of the French High Command. Taken as a whole, however, the situation on the front of the B.E.F. was still favourable.

THE SECOND PHASE—16TH TO 26TH MAY

On 16th May, news of a German break-through on the front of the French Ninth Army, South of Namur, was confirmed at G.H.Q. This operation was effected with armoured forces, supported by troops carried in M.T. or mounted on motor cycles and its success seems to have exceeded the highest German expectations. By the evening, enemy armoured

forces had penetrated nearly forty miles and had slipped through the field defences which prolonged the Maginot Line to the North along the Franco-Belgian frontier.

This irruption, combined with the dissolution of the French Ninth Army, left the flank of the French First Army, operating North of the Sambre, in a dangerously exposed position. An immediate retreat was inevitable, and the B.E.F. had to conform to the general withdrawal. The Ist and IInd Corps retired by stages to the line of the Dendre, where the 50th Division was still in position. The 48th Division threw out a defensive flank to the South; attempts by a German armoured formation to cut in behind the Ist Corps in the neighbourhood of Hal were repulsed. The Ist Armoured Reconnaissance Brigade arrived near Lille.

The situation in Northern France continued to deteriorate rapidly, and by the evening of 17th May, German armoured troops were South of the Forest of Mormal, and by the evening of the 18th, they were approaching Peronne only some thirty miles East of Amiens.

The withdrawal of the allied forces in Belgium was persisted in and by the 19th the B.E.F. were in occupation of the line of the Escaut, where the position was held from right to left as follows: Ist Corps, with 48th and 42nd Divisions up (2nd Division in reserve); IInd Corps with 1st and 3rd Divisions up (50th Division in reserve); IIIrd Corps, with 4th and 44th Divisions up (5th Division in G.H.Q. reserve); Army Tank Brigade in G.H.Q. reserve South of Lille.

By 20th May, enemy armoured formations had reached Doullens and were heading for Abbeville. It became urgently necessary, therefore, to strengthen the right flank of the B.E.F. by occupying Arras and by organizing the line of the Canal from Gravelines - St. Omer - Bethune to Carvin, with such troops as could be made rapidly available. These chiefly consisted of Territorial battalions which had come to France for labour duties in the rear areas and of various artillery, engineer and other units which had not taken part in the advance into Belgium. Various composite formations were hastily built up; for example "Petreforce" (Commander, Major-General Petre), including elements of the 23rd Division, Welch Guards, West Yorks, and a squadron of tanks was formed for the defence of Arras. Another composite formation known as "Macforce" (Commander, Major-General Mason Macfarlane) was constituted for the defence of the Scarpe about St. Amand. "Frankforce" (Commander, Major-General Franklyn) including the 5th and 50th Divisions (less one brigade) the 1st Army Tank Brigade and the 12th Lancers was allotted to the Vimy area. And, lastly, "Polforce" (Commander, Major-General H. O. Curtis) was given the task of holding the St. Pol area against infiltration of enemy armoured units

from the West. All these improvised formations played a vital part in holding up the enemy and in gaining time for the eventual withdrawal of the B.E.F. to Dunkirk.

It was now learnt that more enemy armoured divisions had pierced the Cambrai-Peronne gap in the zone of the French Armies, and in rapid succession threatened Amiens, Abbeville, Boulogne, and Calais. The roads and railways upon which the B.E.F. depended for communication with its bases were therefore cut.

In an endeavour to restore the situation General Weygand—formerly C.-in-C. the French Forces in Syria, who had just taken over supreme command of the allied forces in the West, prepared a plan for closing the Cambrai-Peronne gap by a simultaneous attack northwards from the Somme, and southwards from the neighbourhood of Douai. This attack was to be launched on 21st May, and on that date "Frankforce," assisted by a French light mechanized division from the French Seventh Army on its right, attacked southwards on either side of Arras and made considerable progress. The French Corps on the left which was to have co-operated did not attack until two days later. The French offensive northwards from the Somme never materialized.

The situation which ensued from 22nd to 25th May was one of considerable complexity. During this time fighting was in progress over wide areas between our composite formations and enemy armoured and motorized troops. The Ist, IIInd and IIIrd Corps withdrew from the Escaut position, which they had held firmly against all attacks since 19th May, to the zone of the Frontier defences. These were occupied by the Ist Corps (1st and 42nd Divisions) on the right and the IIInd Corps (3rd and 4th Divisions) on the left.

On 23rd May, valuable assistance was received from the allied troops, the French relieving the 2nd and 48th Divisions, while the Belgians took over from the 44th Division. The purpose of these reliefs was to build up a British reserve in accordance with the wishes of the allied High Command for a counter attack to close the gap to the South.

The situation, however, deteriorated still further. German armoured formations attacked Bethune and, after meeting with a repulse at that point, swerved eastwards towards Carvin. The positions of the 5th and 50th Divisions on the Scarpe became untenable; Arras had to be evacuated.

From the air point of view, too, the situation had become extremely difficult. Most of the allied landing grounds in the North-East of France had been overrun by the Germans and co-operation with the R.A.F., in default of personal liaison, had to be arranged by radio with England.

In these circumstances the projected counter stroke to the South grew more and more impracticable. On 25th May, therefore, the plan was definitely abandoned, the 5th Division being ordered to take post on the Ypres-Comines Canal. This operation marked the conclusion of the second phase.

THE THIRD PHASE—26TH TO 28TH MAY

During the third phase the B.E.F., after evacuating Arras and the Frontier defences, withdrew by stages to the Dunkirk-Nieuport perimeter.

On 26th May, all those composite formations which have already been referred to were abolished and the units composing them were absorbed in the new defence zone. The general line of the Western flank ran as follows: Bergues - Wormhout - Cassel - Hazebrouck - Lille. This was held by: 46th Division, 2nd Division, 44th Division, 48th Division. The 50th Division was in G.H.Q. reserve South-West of Lille. The Belgian Army was requested to fall back to the line of the Ypres Canal. The East flank of the defensive zone was held by the 5th Division, one brigade of the 48th Division, IInd Corps, Ist Corps.

During the day, the enemy intensified his pressure against the Western flank and it became plain that a general withdrawal to the coast could no longer be postponed with safety.

On the night 26th-27th May the main bodies of the Ist and IInd Corps started to evacuate their positions, which were taken over by rear-guards. "Adamforce" (Commander, Lieut.-General Sir Ronald Adam) was formed to take command of all troops arriving in the Dunkirk-Nieuport perimeter and to prepare for their evacuation by sea. The War Office was requested to arrange for the necessary shipping and for ammunition, rations and water to be dumped on the beaches. From now until arrival within the perimeter the troops had to be put on half rations.

Information reached G.H.Q. early on 27th May that the Belgian Commander-in-Chief had requested an armistice. The situation on the Eastern flank of the B.E.F. thus became highly critical. The 3rd Division was moved up North of Ypres to protect the left flank of the 50th Division. Later, the C-in-C. received a telegram from the War Office agreeing to the suggested withdrawal and instructing him that his primary task was to insure the safety of the troops under his command.

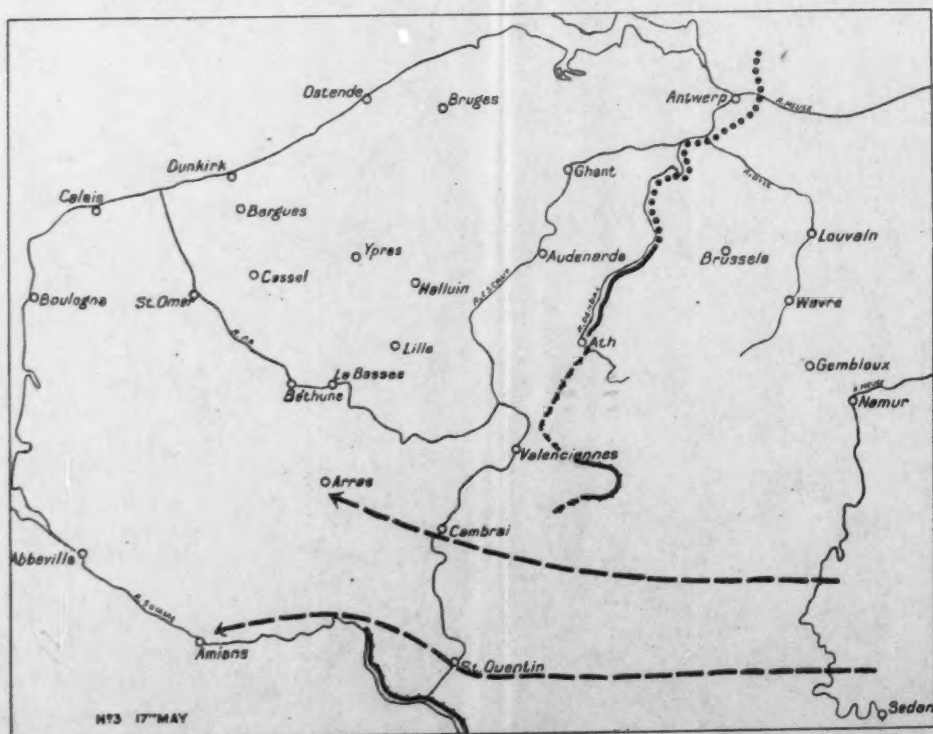
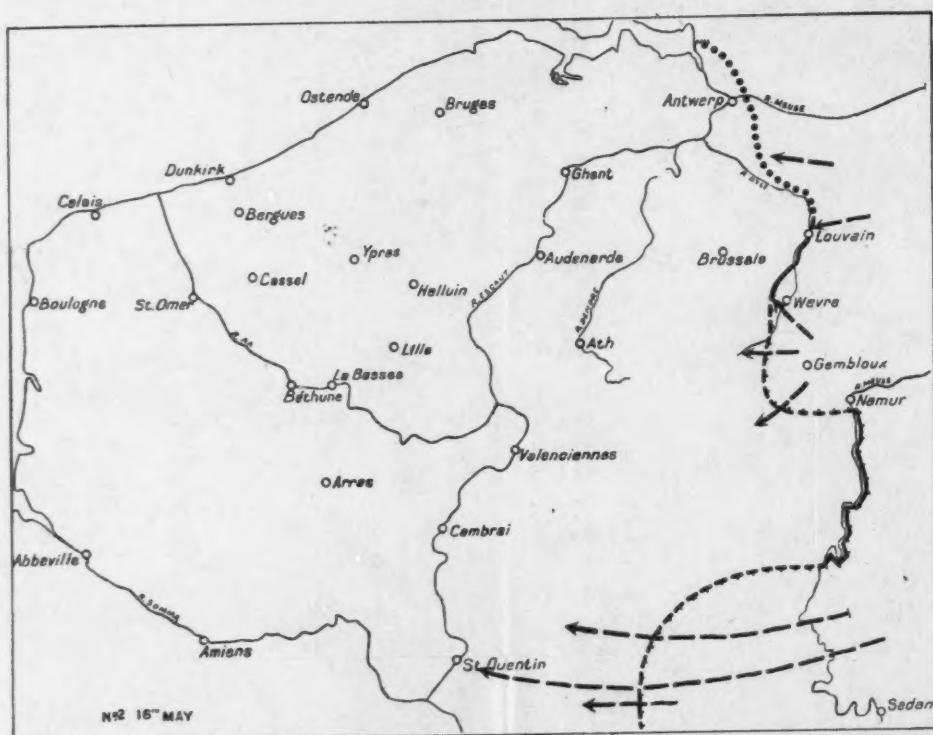
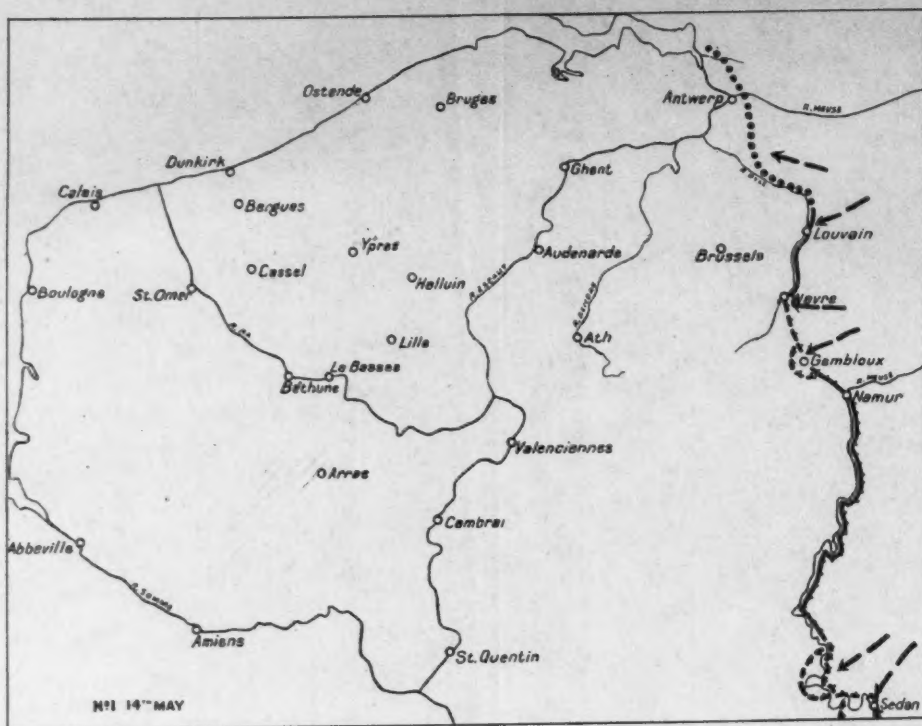
The retirement continued during the night 27th-28th May, and next night withdrawal of main bodies to the Dunkirk-Nieuport perimeter began. Rearguards fell back to the line of the Lys, North-West of Lille. A French Corps (Commander, General de la Laurencie) and portions of certain light motorized divisions conformed to the movement. The

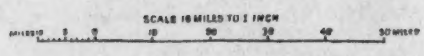
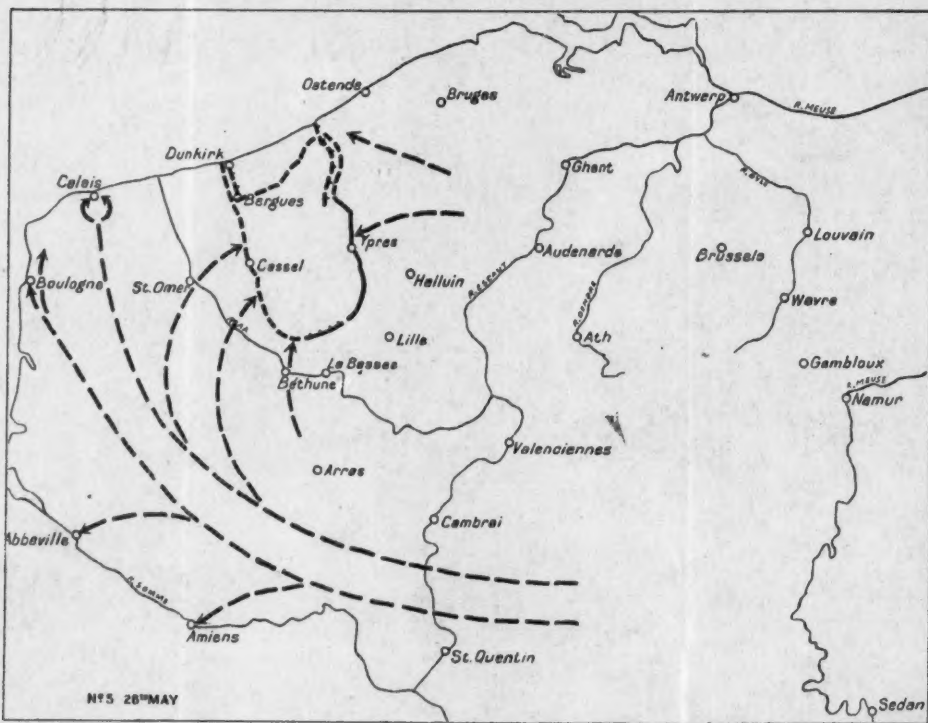
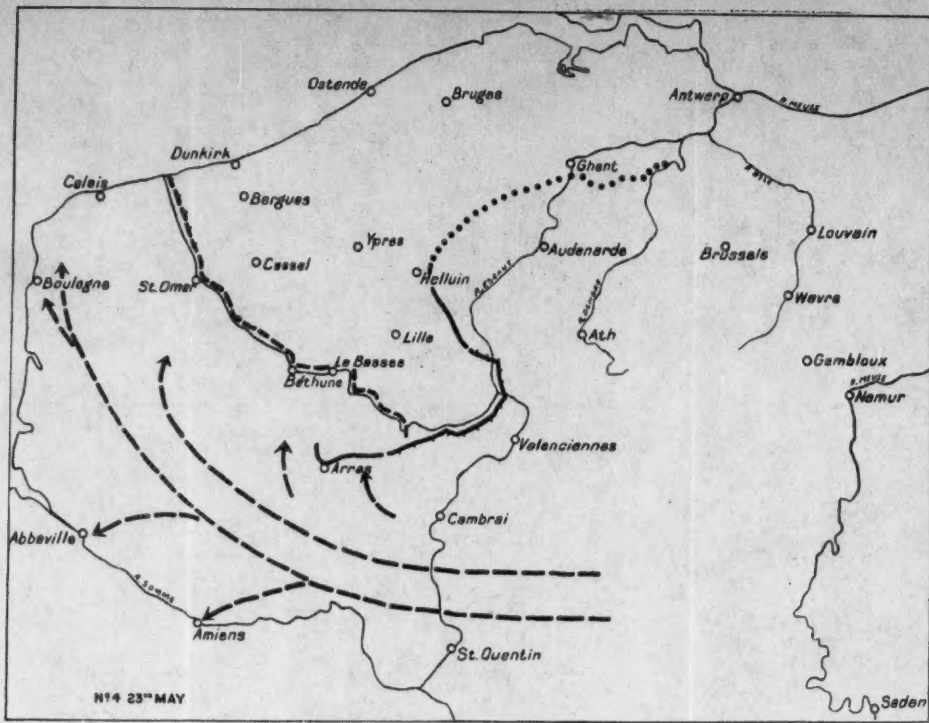
defensive perimeter was occupied in a methodical manner on 29th May and was held as follows : Ist Corps, West of the frontier in touch with French troops at Bergues ; IInd Corps, East of the frontier.

Plans for evacuation by sea worked as smoothly as could be expected in such difficult circumstances. During the night 29th-30th May, the British Government instructed the C.-in-C. to leave as soon as his force had been reduced to three Divisions. The Ist Corps (1st, 42nd and 50th Divisions) was selected to act as rearguard and to continue evacuation at the same rate as the French Army. The embarkation of the IInd Corps continued throughout the night, 31st May-1st June. The Ist Corps took over the defences at 6 p.m. on 31st May, at which hour Major-General Alexander assumed command of the troops left in and about Dunkirk. The intention had been to embark the whole of the Ist Corps during the night 1st-2nd June but, as this turned out to be impracticable, a force of about one brigade, including General Alexander, held on until the following night, when it was finally evacuated to England.

It will be realized, therefore, the withdrawal to Dunkirk was forced upon the B.E.F. for strategical reasons the origin of which must be sought in sectors other than those for which they were responsible. Tactically our troops mastered the enemy whenever they encountered him in the field.

28





LEGEND

- British Troops ————
- French Troops (dotted line)
- Belgian Troops (dotted line)
- German Troops ———— (solid line with arrow)

A NEUTRAL VIEW OF THE GERMAN-POLISH WAR

By LIEUT.-COLONEL DINULESCU, Roumanian Army

Translated and reviewed by MAJOR J. V. DAVIDSON-HOUSTON, M.B.E.,
R.E.

THE fact that the Polish Army was attacked while incompletely mobilized and was not fully concentrated influenced the whole course of the War. Similar conditions, however, obtained at the outbreak of the Sino-Japanese and Italo-Abyssinian wars, and all these campaigns were preceded by long periods of political tension. In spite of this the Poles failed to make the necessary preparations. This should serve as a lesson to small States which have powerful neighbours with large air and mechanized forces : mobilization and concentration cannot be carried out under the bombing of superior air forces.

The Poles considered that the usefulness of motorized forces depended chiefly on the development of the road system, and approached motorization very cautiously.

The Polish Army consisted of approximately :—

- 30 Divisions ;
- 13 Cavalry Brigades ;
- 1-2 Mechanized Brigades ;
- Some Tank Battalions ;
- About 1000 aircraft.

The German Army involved consisted of approximately :—

- 37 Divisions ;
- 5 Motorized Divisions ;
- 5 Armoured Divisions ;
- 4 Light Mechanized Divisions ;
- Some independent Tank Brigades ;
- 1 Cavalry Brigade ;
- 7 Air Divisions (10,000 aircraft) ;
- 1 Tank Regiment per Corps.

Certain possibilities for a " Lightning War " existed on the Polish front. The conditions included :—

- (a) Ground suitable for rapid manoeuvre ;
- (b) Strategic surprise by the Germans ;
- (c) Faulty Polish conception of defensive warfare ;

- (d) Difference between structure of the two armies, especially Polish air inferiority.

These favourable factors made a lightning war possible for the German armed forces. Similar conditions may apply anywhere where frontiers are extended and relatively weakly fortified, and where one side may be much stronger than the other. For a small State there is also the danger of concentric attacks by an enemy coalition. In these circumstances skilful action on interior lines may be successful.

Lack of important natural obstacles West of the Vistula¹ made it difficult for the Poles to perfect their defences on this line before it was overrun by mobile enemy forces. On the other hand, it must be remembered that the wooded Carpathians along the Polish-Slovak frontier were easily penetrated by armoured units of the 5th German Army and elements of the young Slovak Army. Similarly the Narev and Bug rivers did not delay for twenty-four hours the advance of the armoured Divisions of the Army of East Prussia. Ground, therefore, however strong, must be organized and fortified. An increasing use of camouflage and wooded massifs is called for.

The operations North and West of the Vistula may be summarized as a great double envelopment of the Polish forces from Poznan and from the area Kutno-Warsaw-Lodz. The complete success of this manœuvre led to the encirclement and destruction of the Polish forces, and practically solved the problems of the German High Command. Operations East of the Vistula may be considered as the consequence of this success, a mopping up of the vestiges of resistance. The manœuvre of double envelopment is deeply rooted in the mind of the German leaders, who have derived it from the inspiration of the classic battle of Cannæ. It is hard to find in history an example of such successful and total destruction of an enemy force in a single battle and in so short a period as that of the Polish campaign. For such a success the attacker requires :—

- (a) Absolute superiority of force.
- (b) The greatest measure of surprise.
- (c) Rapidity of manœuvre to prevent the escape of the enemy.
- (d) Immobilization of the enemy, who should be attacked to the full depth of his dispositions and prevented from counter-action or retirement.

The Germans enjoyed all the above conditions, which resulted in :—

- (a) Rapid action by the German Army, and the surprise of the Poles incompletely mobilized and not fully concentrated.
- (b) Superiority of German forces, especially in modern armament.

¹ See Map facing p. 408.

- (c) Mobility conferred by mechanized and motorized forces, which were included in large numbers in the forces carrying out the envelopment.
- (d) Immobilization of the Poles, caused not only by the action of armoured forces breaking through but also by air action which paralysed all Polish military movement.

Envelopment of the Poles was facilitated by the configuration of the frontiers.

A battle of destruction requires a continuous succession of attacks, not allowing the defender time to recover himself. By means of mobile forces the Germans from Silesia penetrated 250 kilometres through the Polish dispositions in eight days, up to the gates of Warsaw. The same was true of the German air arm: some important areas were bombed almost continuously for eight hours. Thus the success of the German manoeuvre was mainly due to:—

- (a) Initially advantageous strategic situation.
- (b) A military instrument forged especially for such a manoeuvre.

THE POLISH CONCEPTION OF DEFENCE

The Polish covering forces, weak in anti-tank equipment, unsupported by fortified works, and not defended by A/T obstacles, were unable to hold up the Germans at the frontier. Because the concentration areas of the Polish main forces were too near the frontier, the weak covering forces had insufficient space in which to manoeuvre and to gain time for the main forces. Thus after three days operations in the Bydgoszcz area, and also in Silesia, the main line of resistance was largely occupied by the Germans. The Polish main forces of the 1st line had the task of delaying the German advance in front of a line 50–100 kilometres behind the frontier. The latter line was to be the main line of resistance. This plan, inspired partly by unwillingness to cede territory, was risky and impracticable for the following reasons:—

- (a) Concentration areas too near the frontier.
- (b) Main line of resistance too near the frontier.
- (c) Main line of resistance enormously long, exposed to envelopment with a pronounced salient in the area Wloclawek-Bydgoszcz-Sieradz.
- (d) Lack of a serious obstacle on which the defence could depend in the very area most threatened, Sieradz-Czestochowa.

The above conditions resulted in a linear concentration where, owing to the length of the selected defensive front, it was nowhere possible to establish a continuous line of resistance of sufficient depth or density. Furthermore, the density of forces was greater in the area Bydgoszcz,

than in the more dangerous directions (Czestochowa-Warsaw, and East Prussia-Warsaw). The greatest mistake of the Poles was the selection of concentration areas and the siting of the line of resistance so near the frontier that the Polish forces had not reached their concentration areas by the time that the Germans had occupied a large part of the line intended for the main force. The Polish Command did not take sufficient account of the factors of *time and space*, or the relation between these factors and the *forces available*, and thus conceived a manœuvre which could not be carried out in practice. For these reasons the intervention of the main forces did not occur simultaneously, and it was not possible to consolidate the defence throughout the whole front.

The Polish Command did not take into account the German superiority of force and greatly underestimated:—

- (a) The tactical, and especially the strategical, value of mechanized forces.
- (b) The destructive effects of air bombing.

The lack of a sufficiently powerful obstacle West of the Vistula, added to the Polish inferiority of force, should have determined the Polish Command to choose a battleground which would be shorter, further from the frontier, and on naturally stronger ground. In general, a mobile defence, open on the flanks, is difficult of execution in the face of superior hostile mechanized and air forces. During operations, the preparation of a defensive battleground which will allow for a fight against superior forces can be carried out only at an appreciable distance behind the troops in contact, and by utilizing to the maximum major tactical features. (Waterways, mountain ranges, and wooded massifs, etc.) In this connection, the German penetration of the Tatra massif in the direction Zakopan-Nowy Targ is remarkable. It appears that in this direction only armoured units (two armoured divisions) operated, crossing the mountains during the first few days and reaching Nowy Targ (35 kilometres North of the Slovakian frontier). It is probable that the five or six roads through the Tatra massif were neither blocked nor defended by Polish troops with A/T weapons. The action of the German troops, however, was to be expected; yet their penetration turned the Polish defence in the area Kattowice-Pless.

TACTICAL LESSONS

The German offensive forces were organized in two main groups:—

- (1) Southern Army Group, with about six armoured and motorized divisions, divided into:—
 - (a) Mechanized and motorized echelon.
 - (b) Echelon of infantry formations.

- (2) Army of East Prussia, with four Army corps, and one armoured division.

On parts of the front where there were no armoured or motorized formations, operations developed on normal lines.

The most characteristic operations were those of the Southern Army group, and especially of the Fourth Army, which appears to have made the principal effort of this group. These forces were disposed as follows :—

- (a) 1st mechanized echelon, constituting the advanced guard, as well as the shock element of the Army.
- (b) Main body, composed of infantry formations, following at a distance which was sometimes as much as 24–30 kilometres.

The first mechanized echelon with a powerful air component pulverized the weak Polish covering force dispositions, and disorganized the main forces in the act of concentration. It was able to accomplish this by a deep and unexpected penetration of some tens of kilometres in a few hours, together with enveloping movements and blows at communications, forcing their opponent to withdraw before his main force could intervene. Approach and gaining of contact developed rapidly owing to the speed of motor vehicles, and could not be delayed by the out-of-date security measures taken by the Poles. The German Fourth Army advancing from Silesia reached the outskirts of Warsaw solely through the efforts of the 1st mechanized echelon, which covered 240 kilometres in eight days.

Preparation of the attack was generally very short owing to the fact that the Polish main forces had not sufficient time to organize their positions. Preparations were made as follows :—

- (a) Mass air-bombing of Polish dispositions, especially artillery headquarters, reserves and communications. In some cases the Germans bombed and machine-gunned infantry in the front line, when these were caught in the open.
- (b) Artillery fire on enemy infantry, A/T armament, supporting artillery, and heavy artillery.

The only new artillery lesson arising out of the above activities is the extraordinary efficacy of air bombing on ground dispositions. The German mass bombing paralysed the Polish forces before they could concentrate and take up their positions, and subsequently disorganized them.

In the line of advance of the German Southern Army Group, no permanent fortifications had been constructed, and the German artillery preparation was limited in most cases to neutralizing the A/T armament

and close-support artillery. Sometimes there was no artillery preparation, as when the Poles were caught on unorganized positions ; without a completed fire-plan and with uncamouflaged dispositions.

THE ATTACK

The armoured divisions, each composed of :—

1 tank brigade,

1 motorized brigade (*Jägers*)

and motorized artillery, attacked with the tank brigade in the first line, and the *Jäger* brigade in the second line. Thus was formed a compact mass of tanks (300–500, on a front of 3–4 kilometres), having a front echelon of heavy and medium tanks, followed by an echelon of light tanks. The heavy and medium tanks broke up what resistance remained after the air and artillery bombardments making a gap for the light tanks, which turned the flanks and forced a general retreat. Exploitation was merely a continuation of the advance, which transformed itself into a pursuit owing to the inability of the Polish units to rally or counter-attack. At a distance of 10–15 kilometres behind the mechanized echelon, but sometimes as much as 30 kilometres behind, followed the main force consisting of infantry divisions. These were used on the rare occasions when a “punch” was necessary, but mostly to mop up surrounded Polish formations. Thus the Fourth German Army from Silesia reached Warsaw solely through the efforts of its mechanized echelon. The main force was later directed, partly northwards to surround the Polish troops in Poznan, and partly South-East to surround the Polish group in the Radom area. Although in this area the Polish troops were more densely grouped, and were supported by permanent fortifications, their dispositions presented gaps which were penetrated by the armoured division.

It has been established that—in the attack upon fortified positions, even if consisting of a single line of works as those of Mława and Pultusk—the effect of air bombing was indecisive, and it was necessary to have recourse to methodical artillery preparation ; where A/T weapons and serious obstacles were encountered, the frontal attack, even when accompanied by tanks, was stopped. When, however, the Polish works were in course of construction and presented a small frontage (10–20 kilometres), with great intervals and reduced depth, the German troops employed enveloping attacks with the armoured division. There is evidence that in similar situations the Polish resistance yielded to the effect of turning movements only, before the frontal attack had completely developed. From this cause resulted also the rapid development of all German movements (Mława–Pultusk

and Lomza). On portions of the front where armoured formations were not available the attack developed along orthodox lines. On these portions of the front the operations developed, in general, less quickly (Poznan), but with great vigour, thanks to the action of tanks which formed an integral part of formations (one tank regiment to each corps), and to the moral and material fire effect of the German fighter aircraft. A fact to be noted is that the German attack almost always avoided defended localities, woods and strong points, or well-organized areas; these were pinched out by the wide enveloping attacks behind the Polish dispositions. The localities which held out were literally destroyed by artillery fire and incendiary air bombs (Mlawka). Similarly, the German doctrine applied with much boldness and complete success *exploitation in depth*, as opposed to the more prudent French doctrine, which aims at *lateral exploitation* after penetration. Exploitation in depth is indeed very risky, for it exposes to possible destruction those units which are too far ahead, in cases where the enemy reacts energetically. The boldness of German penetration in Poland is explained to a great extent by the acquisition of full information obtained from command of the air. Another established fact is that each unit advanced straight to its front without paying attention to neighbouring units; and in this manner the gates of Warsaw were reached in eight days, a rate of advance hitherto unknown. Each unit entrusted to the headquarters immediately above it the care of its flanks, and maintenance of touch with units operating on its right and left. Being absolute masters of the air, the German air reconnaissance was in a position to watch all movements of the Polish forces; this facilitated the execution by the German command of the boldest manoeuvres with the minimum of risk. At the same time the German fighter aircraft almost completely neutralized the action of the Polish air reconnaissance. The co-operation of aircraft with ground forces on the battlefield was carried out on an unprecedented scale, not only for increasing the effective range of the artillery, but even in action against infantry and artillery dispositions with bombs and machine-gun fire.

CONSIDERATIONS RELATING TO THE DEFENCE

Defensive fire, an element almost universally considered as decisive in the defence, did not receive the attention it deserved. It appears that in no direction of their advance did the German attack encounter a position of resistance, as it is conceived nowadays, with continuous thick and deep belts of fire. Besides this, the appearance of new means of attack imposes the adoption of a fire-plan in order to obtain:—

- (a) A powerful A/T barrage.
- (b) A general barrage against the attacking infantry.

- (c) Counter-battery fire.
- (d) Anti-aircraft fire.
- (e) Fire by aircraft allotted to the defence; both for counter-preparation and during the attack.

In order to be prepared for all possible forms of attack, the defence should be able to concentrate the bulk of its fire either in an A/T barrage or in a barrage against the infantry. In cases where the defence has insufficient special A/T weapons, the fire-plan must provide for part of the divisional artillery to be allotted alternative A/T missions.

The covering position should be based on strong natural obstacles. In the absence of sufficiently strong natural obstacles, and even when such obstacles exist, permanent works must be constructed in peacetime as a powerful support to the covering force. Covering detachments must be composed of very mobile troops, since the covering position will nearly always be attacked by mobile units. Between the covering detachments there must be continuity of observation and as close touch as possible; otherwise the detachments risk being surrounded and captured by the rapid advance of enemy mechanized formations into the gaps. Covering troops must be equipped with numerous A/T weapons. Besides a liberal distribution to units in the front line, the respective headquarters must have at their disposal special motorized A/T detachments, in order to be able to intervene as rapidly as possible against mechanized formations which may penetrate gaps in the dispositions. The manœuvre of protective echelons on successive positions is to-day a very difficult operation, both because of the speed which mechanization can give to the attack and because of the action of opposing aircraft. The manœuvre of protective echelons must be organized so that withdrawal from a position may be carried out as far as possible under the cover of darkness. The execution of large scale demolitions, both in front of the forward protective echelons and in the area between the various echelons in the rear, and especially in the intervals between detachments, has become an absolute necessity in order to impede, or at least slow down, the advance of hostile mechanized troops. In this manner the retirement of various echelons will be assured as well as facilitating the resistance of covering detachments. The whole of the Polish defensive manœuvres took on in execution the aspect of covering operations. Their failure was due to the fact that the above conditions for covering operations were not fulfilled, at least for the main protective forces. It can be concluded from the foregoing that the main factors in covering operations are the quality—rather than the quantity—of the forces, the tactical situation, and the fighting methods adopted.

The main Polish defect was the lack of continuous defensive fronts or of strong echelons on the flanks, and in the gaps between fronts. To this must be added the veritable distaste which the Polish command seemed to have for the defensive battle on a line of resistance, and which the troops felt for organizing ground and digging trenches. From these causes the defensive battle was never fought on a completely organized and camouflaged position, with a fire-plan well adapted to the ground, and with secure flanks. Even where the defence rested on fortifications (Mława, Pultusk) the lack of continuity of the defensive position and of depth in the works allowed the attack to outmanoeuvre these fragments of positions with ease. In order to deal with armoured units which penetrate the defensive dispositions the defence must dispose of mobile reserves, including tank units; in such cases single tanks can counter-attack with chances of success. The failure of counter-attacks by Polish cavalry units against German armoured units (Częstochowa, 4th September, and Sieradz, 5th September) are conclusive examples. In case the first line of resistance is lost, the rapidity with which the attack's mechanized elements are able to continue the advance will make it difficult, if not impossible, for the same troops to resume the defensive battle on another position. In conclusion, in order to ensure the preparation and execution of counter-offensive action on the ground the defence must dispose of fighter aircraft which may impede, at least for a limited period, the attacker's reconnaissance aircraft.

THE SYSTEM OF COMMAND

The rapidity with which the various strategical and tactical situations change imposes on commanders of all ranks a correspondingly rapid tempo for obtaining information, and taking decisions; and in addition, an unprecedented speed in the writing and transmitting of orders.

The six German armies were grouped in two army groups and one connecting army (Sixth). Similarly, headquarters of army groups were used by the Germans during the World War. Their role is to co-ordinate a variable number of armies (two, three or even four armies). The transfer of a division from one army corps to another is carried out with ease in the German army, because the services in the corps echelon are few in number and completely motorized. The application of this system of command led, during the World War, to the creation in the German army of a number of corps headquarters without troops; these headquarters were sent out to group together a number of divisions where found necessary.

In the Polish campaign, the Germans used commanders and staff officers who were well acquainted with the Eastern front :—

Lieut.-General Von Brauchitsch, who as supreme commander of the land forces, took an active part in the conduct of the Polish campaign, commanded for four years the 1st Corps at Königsberg (East Prussia).

Lieut.-General Von Runstedt, commanding the Southern Army Group, has filled, since 1923, appointments at Stettin, Breslau and Berlin. Since 1932, when he took command of the First Army Group (Berlin), he was destined to be C.-in-C. on the Eastern front. In the operations against Czechoslovakia in 1938 he commanded the army which entered Moravia from Silesia. After this operation (November, 1938) he went to the reserve, whence he was recalled for the Polish campaign. It will also be recalled that General Von Hindenburg, considered to be an expert on East Prussia, was recalled from the reserve at the beginning of the World War.

The special character of mobile operations imposed the principle of décentralization on a wide scale on all headquarters, including those of small units. The Staff technique generally involved the issue of very brief orders completely lacking in detail, containing the broad outlines of the operations over the longest possible period. Intervention by the Army in the conduct of Corps was very rare. In spite of this, all headquarters followed closely the movements of the troops. Thus the headquarters of the army of East Prussia moved to Ostrow Maz immediately the leading elements of the army had crossed to the South of the Bug. Similarly General Reichenau, commanding the Fourth Army, ferried his headquarters across the Vistula immediately behind the leading elements which had established the bridgehead East of the river. In order to maintain this close contact with the front, headquarters moved by echelons; the first echelon being always much reduced in size, but well supplied with means of communication. In taking decisions, commanders of all ranks showed a spirit of initiative and boldness. No risky situation, however, had grave consequences, owing to the general success of the German offensive operations. The rapidity shown by the German headquarters, not only as regards the collection of intelligence, but also in the transmission of orders, was only possible thanks to a lavish scale of rapid means of transport and of an efficient utilization of Signal communications.





WINGED ARMIES¹

By LIEUT.-COLONEL J. T. GODFREY, R.E., *p.s.c.*

THE transport of troops by air has already reached a stage which may have a considerable influence on the course of a future war. It is obvious that, in our case, a first essential to its success would be close co-operation between the Army and the Royal Air Force ; but here we find an initial difficulty. The Air Force, owing to the peculiar circumstances and needs of its growth in the Great War, has hitherto confined its activities mainly to its own element—the air, while the Army has been regarded as essentially a land service. In cases where air transport has been provided for the Army, its use was dictated by purely temporary considerations ; it has not, so far, been a matter of deliberate policy.

The capacity of the Air Force for offence is analogous to that of very long-range guns ; aircraft cannot capture or hold ground, although that is the decisive argument in war unless national morale has disappeared. On the other hand, the Army, whose role is essentially that of capturing and holding ground, may find it difficult—at any rate within the modern limitations of time—to reach the ground which it is so vital to control : in the war of to-day this implies not only the ground occupied by the enemy's field army, but also those aerodromes and factories which are the true sources of his most vicious destructive power.

Is a combined technique within the realms of possibility, and if so, can our own two Services together provide a "winged army" capable of reaching such areas, destroying them, and preventing their repair ? A study of this problem appears to be important ; otherwise, in spite of what at first sight may seem undue risks, we may find ourselves the victims of surprise by a more air-minded enemy.

Clearly, technical development is at present the governing factor. Let us therefore examine the potentialities in a definite situation such as that of two large land forces facing each other and seeking a means to break through—in fact one similar to that which prevailed on the

¹ This article first appeared in the JOURNAL of August, 1935. It is republished as it represents an independent British forecast of a new strategical device.—EDITOR.

Western Front in 1918. It is assumed of course that modern material is available, and that the proposed "winged army" is to be used as an adjunct to the established formations which include mobile land forces of armoured fighting vehicles. This is the most difficult case for the use of a winged force; if it can be proved possible, all easier cases follow. The instance of the idea which will most readily be comprehended amounts to this—the transport of a specially composed force by air to a selected area or areas on the enemy's line of communications, and its maintenance by air at that spot for a length of time sufficient to cut that line entirely. Communications are, by common consent, the Achilles' heel of armies as at present constituted, and to cut them effectively must be regarded as a major stroke of strategy.

All attacks on communications should attempt to elude the enemy en route. By the laws of Nature a land force can avoid an opposing land force only by movement over the surface of the earth. But an air-borne force has much greater scope for avoiding opposition. Is it possible to convey troops by air to carry out missions of destruction within reach of attack by enemy fighters en route? Can the actual equipment of the troops themselves be modified for such a task? Can security be obtained for them in reasonable measure?

Naturally any move by air-borne troops demands a high degree of local air superiority, and throughout the argument that follows this must always be understood as stipulated. For additional concealment the actual move of the air-borne force can be timed to start at night, at such an hour that the landing takes place just after daybreak. It can be further protected en route by a local air guard, flying near by, which would perform the same duties as advanced, flank, and rearguards to a land force. Guard forces overhead and underneath would probably be required in the air in addition, since the journey would entail the risk of attacks by enemy fighters as well as of anti-aircraft fire. In the estimation of many airmen, the latter is not likely to cause many casualties, and it is unlikely that much fire of this nature will be encountered outside defined areas like bases. Fighter attack is most probable, at first sporadic, and later on more concentrated. The assumed air superiority does not, of course, guarantee immunity in any area: but it does mean that, provided a particular area is accepted as the one to be protected for the time being by *all* the available air forces, a very satisfactory degree of immunity from air attack can be obtained there. The basis of the whole argument for this form of air-borne attack is that it constitutes no mere raid, but a true extension of the strategy of "rear-attack" by a correct use of air transport. If it be even partially successful, it represents a blow of the first magnitude, and is therefore

worth the expenditure for the time being of the *whole* available air strength.

Let us assume then that this force, adequately protected in the air, is on its way, and is about to land in the early morning. The next query is—can it land? The landing ground must be very carefully selected, as the choice will greatly affect subsequent operations. The conditions required for it are :—

- (i) Ground flat enough for aeroplanes to land and take off : i.e., a reasonably good natural aerodrome.
- (ii) Reasonable proximity to the main objective of the attack—bridge, viaduct, or important railway junction.
- (iii) Remoteness from large concentrations of ground troops, since it is of the utmost importance that the early stage of an air-borne attack should avoid serious resistance.

The intention of the commander of such a force should be to destroy and to prevent repair to the central objective of his attack—a railway junction for instance—for so long as is necessary to influence seriously the enemy troops supplied by the line he attacks. He must therefore surround his central landing ground, and also, if possible, his objective, with some form of all-round defence, sufficient to protect them from observed field artillery fire. Assuming that a six-mile radius (or 10,000 yards) is depth enough to secure this condition, the perimeter to be held is the circumference of a circle of that radius, i.e., about 36 miles.

This may sound an imposing task for any force that is air-borne. But many factors reduce this apparent difficulty. Firstly, the attack is, by design, launched as far as possible from known enemy troops. Secondly, air-borne attack by its very nature comes as a surprise. Thirdly, the perimeter can in great part be held by a thin outpost line watching roads and approaches. Finally, the air guard is part of the force, and will give additional warning of the approach of hostile bodies. These considerations are pointers to the composition of the force, which must have the highest land mobility combined with the highest fire-power possible, and be strong in defence. It must, therefore, consist of mobile machine gunners : that is, their machine guns must be carried in motor vehicles which are fast movers both over roads and across country, and capable of transport in an aeroplane. The force will almost certainly have to meet attacks by tanks, and must therefore be provided with a generous proportion of anti-tank guns which also fulfil the above conditions.

As tactics are based on equipment and armament, let us briefly consider the technical possibility of meeting these requirements. One factor, obviously, is the weight and type of vehicle and its load. The

machine-gun carrier envisaged for this work is a cross between the Austin Seven and the ordinary light-tracked machine-gun carrier. It should be the lightest and lowest-tracked vehicle, unprotected by armour, which can be designed to carry two men, a machine gun, rations, water, fuel, and ammunition. Aluminium or other light metals should enter into its construction wherever possible. The machine gun should be able to fire from the vehicle, though its normal role would be that of a ground weapon. With an air-cooled engine, which is highly desirable, such a vehicle could be designed to weigh not more than 15 cwt. when fully loaded, and to be little larger than the Austin Seven used by cavalry to-day. An anti-tank gun on similar lines might be produced to weigh a ton or under. Three such machine-gun carriers, or two and one anti-tank gun, would then be a reasonable load for one aeroplane. Such an aircraft would carry, in normal parlance, a pay-load of 5500 pounds: it would possess a speed of 125 m.p.h., and a range of 400 miles.¹

A suggested tactical unit for the air-borne force might then be a "section" comprising four machine-gun carriers, one mobile anti-tank gun, and a commander's vehicle (practically a fifth machine-gun carrier equipped with wireless): total, six vehicles, carried in two of the above aircraft. Eight of these aeroplanes might be termed an "air-platoon" comprising four sections—that is a total of 24 vehicles with an armament of 16 machine guns and 4 anti-tank guns (the section commander's gun is not included in this total).

The original force to be landed is required to watch 36 miles of perimeter, and be able to ward off attacks until its aeroplanes can bring a second load of reinforcements. A section per mile of perimeter with 25 per cent. local reserves—that is, 45 sections—and nine sections as central mobile reserve are suggested as being able to deal with all likely situations for the first day. Nine sections give 36 machine guns, considerably more than the equivalent in sustained fire-power of the present-day battalion, and with considerably greater mobility. This gives a total of 324 vehicles, or with the necessary additions for demolition parties, staff, and medical personnel, say 360 vehicles, which can be carried in one trip of 120 aeroplanes, or two trips of 60 aeroplanes. This whole force of 360 vehicles might be termed an "air-brigade," and would form the first day's allotment to one main objective. In order to preserve secrecy, emplaning could take place at several different starting points. Concentration would take place in the air, and the air guard of fighters would take up its stations before an advance over enemy territory was begun.

The basic idea underlying this form of attack is a military parallel

¹ These were, of course, the conditions obtaining generally in 1935.

to that which has inspired one of the most successful political methods of Communism. This device is the political "cell" established in the heart of the enemy camp. The military parallel is to plant, by means of air transport, a "cell" on a nodal point of the enemy's communications, perhaps 50 to 100 miles behind the main theatre of operations, and to maintain it there until, like a tumour on the enemy's arteries, it has paralysed the part of the body fed by them. The cell must be a definite fighting organism, capable of endurance for several days, and in the actual case will have wide powers of movement.

It will be seen that there is a psychological moment for implanting this military "cell," since this should not be done till there is a very considerable body of hostile troops being fed by the artery in question, or much of its effectiveness is lost. It will also depend for its full value on surprise, as well as on the scope of its effect. For this reason two or three of these "cells" might be planted within reach of each other; this would amount to a whole band of territory being cut off between the enemy's bases and his front—a threat that could well have a decisive influence on a campaign. The idea is not new, but perhaps air transport may provide a new means for its application.

The most important phase of the whole attack is the initial landing. The site for this operation must have been previously selected by the various methods of reconnaissance open to the Intelligence Staff. One aircraft having tested it, the advanced guard would land and disembark its vehicles.

The land troops of the force would naturally have received the most careful instruction in the topography of the area, not only from maps, but also from sand models corrected from the latest air photographs, and would have been trained as for any other attack. This would enable sections to move towards their allotted positions on the ground with the least delay. The advanced guard would establish an inner perimeter, and be followed by the main body; the latter would leapfrog the existing line and thus establish a larger perimeter, the object being to make sure of progress step by step. Thereafter a mobile reserve would be formed in readiness to meet local opposition. The final stage would be expansion to the full radius of six miles.

In the meanwhile, as soon as the objective—whether it be a bridge or other structure—can be enclosed within the expanding perimeter, a demolition party in vehicles must proceed with its destruction and continue systematically doing as much damage as possible to the main communications in the area. The defenders would meanwhile make all arrangements for holding their perimeter in preparation for the approach of night.

Now this whole process must occupy many hours, and therefore should admit of the same aeroplanes being used twice in the same day. The number of carrying planes can thus be reduced according to the number of trips which are to be undertaken, and two trips, of 60 aeroplanes each, should be a possible minimum. Each aeroplane must only stop long enough at its destination to let its vehicles get clear, and then turn into the wind and take off again. With organization and practice, ten minutes should suffice. Assuming four aeroplanes landing and taking off simultaneously, and allowing ten minutes grace, twenty empty aircraft could return under escort to their parent aerodromes every hour. Every minute by which the unloading time could be reduced would speed up the formation of return batches, and render their protection easier.

Half the brigade, therefore, could be landed in three hours, and probably less. The "turn-round" from the parent aerodrome to the site of the attack would take somewhere about one hour. Thus two round trips (transporting the whole brigade) could be done in a little over six hours, assuming that the air strength be maintained at 60 aeroplanes by replacement of casualties as they occur. In a summer's day there would thus be ample time for at least a third trip. Of what should this third load consist? The load suggested is, firstly, a company of cyclist infantry; secondly, some twenty motor-cyclist despatch riders; and, thirdly, additional stores such as ammunition, medical requirements, explosives, and tools. The reasons for this choice are as follows. However carefully chosen the site of the attack may be, enemy troops might be encountered in the area of the "cell." But, owing chiefly to the element of surprise, such local resistance should soon be crushed with few casualties on either side. The captured men will remain, however, as prisoners of war, and embarrass the free movement of the machine-gun carriers pushing outwards towards the perimeter. Civilians also, particularly those in cars, who have entered the expanding perimeter must be rounded up and detained so as to prevent them from giving information for the time being. Infantry are suited to both these tasks, but must have something better than their feet on which to move. A force amounting to about a company of cyclist infantry seems to meet these requirements; their first line transport could be composed of the same type of carrier that is used by the machine gunners. The motor-cyclist despatch riders would probably be of great value for inter-communication at certain phases of the cell's life, in addition to the W/T with which the force down to sections is assumed to be equipped.

The greatest difficulties of this skeleton force may begin to be felt at nightfall; but much can be done to reduce them. With reasonably

good fortune, the maximum radius of six miles should be reached by the last-landed machine gunner seven hours after the first landing—or say, by 12 noon. In the six hours of daylight remaining on the average, every road or track leading into the perimeter could be blocked with an obstacle held under our own fire, and something could be done towards an elementary entanglement round the guns themselves. Night attack directed against such an unfamiliar phenomenon as one of these cells may, in any case, be regarded as unlikely in the early stages of the enterprise. None the less some of the cyclist infantry could be of great value as standing patrols posted in likely areas.

From the next day onwards, however, enemy activities would undoubtedly increase, particularly in the air. Our aircraft flying into the central landing ground would require even closer protection. This increased scale of resistance would also necessitate a reckoning of longer—say of double—time for the clearing of the airway, and thereby impose a corresponding delay on the arrival of further troops and stores. Let us assume then that delivery of the equivalent of the first day's load would now take two days; that is to say that the total force landed by the end of the *third* day would be double the original—in all, headquarters and an "establishment" strength of 532 machine guns and carriers with two men each; 108 anti-tank guns; two companies of infantry on cycles; and demolition parties. Allowing 20 per cent. casualties in the three days, the force would have an actual strength of about 400 machine guns and 80 anti-tank guns, of which perhaps one-third could now be allotted to the central mobile reserve. This is a very respectable defensive force, and if part of the perimeter were by design a water obstacle, their defensive power would be correspondingly increased.

Once this phase of the operation was reached the cell should be reasonably self-supporting, apart from maintenance, for two or three days against attacks by the local troops. For that period it is unlikely that the enemy will become so persuaded of the seriousness of the threat that he will withdraw from his main front or main reserve strength sufficient to crush the cell.

Before passing on to the larger strategical aspect of the cell's function, let us consider the question of maintenance. The total number of men likely to have been landed in one cell in the three days is about the equivalent of two present-day battalions. The main stores they will require are ammunition, fuel, lubricants, spare guns and machines, rations, explosives, and tools. The fuel scale might be twenty gallons per machine per day, to be conveyed in tins—ample for local purposes; and admitting of the formation of local reserves. Ammunition can be

calculated on a generous scale, as the largest calibre is the anti-tank gun, which is quite small. Allowance is made for plenty of explosives and some tools. The spare parts problem is insoluble for such a force except by the replacement of whole machines or guns, for which approximately a 10 per cent. scale of daily replacement has been allowed. We may assess the total quantities to be transported roughly in tabular form below :—

	TONS.		
	1st Day.	2nd Day.	3rd Day.
Petrol and oil in tins	8	12	16
Ammunition, tools, and explosives	20	30	40
Spare guns and machines	20	30	40
Medical stores, rations, etc.	8	12	16
	—	—	—
Totals	56	84	112
	—	—	—

The totals divided by two (as each aeroplane can carry at least two tons) gives the number of aeroplane round trips required : i.e., 28, 42, and 56 on the three days. If there are sufficient reserves of pilots, this does not mean necessarily that an additional 56 aircraft would be necessary. An original pool of about 40 aeroplanes, in addition to the 60 used for the force itself, would probably suffice. In general, the maintenance loads are seen to be less than the original force loads, and reduce the maintenance problem to the provision of one air convoy per twenty-four hours. If night landing is feasible, night flying might abolish the necessity for a local air guard for any such convoy. The evacuation of wounded, and in this case of prisoners, would be carried out by returning machines under arrangements made by the cell headquarters.

The strategical import of such a form of attack would seem to be as follows. If the foregoing arguments hold good, it is possible both to land and to maintain a small holding force with high defensive and mobile powers at a selected place or places behind the enemy's front areas, and to maintain it there for perhaps a week. This force can destroy and entirely cut communications within a radius of six miles for that period : i.e., it establishes a hostile " cell " on an artery.

Let us now suppose that we have the material and the men available to land, almost simultaneously, two more such cells contiguous to the first at other nodal points on parallel enemy communications leading to the front. The sites chosen should preferably be between the enemy's main reserve area and the flank which our land army has decided to attack. The cells, being contiguous, can then expand till they overlap

and amalgamate. This amalgamation, besides enabling all the cell forces to come under one central command, has the advantage that the length of the perimeter after amalgamation is shorter than the sum of the perimeters of three separate cells. Consequently a greater proportion of troops can be allotted to the central reserve, and fewer are needed for work on the perimeter. With three such cells, amalgamated, the central reserve should not be far short of 240 machine guns, the equivalent of six or seven present-day battalions, with a quarter that number of anti-tank guns. This reserve is as fast-moving as any force, even a mobile land force, that can be brought against it, and is very definitely working on interior lines within itself. It is therefore by no means helpless or without advantages. Nor is the cell immobile as a whole; the commander will have had opportunities to reconnoitre alternative sites for aerodromes within the cell area, so situated that the cell as a whole can move in any required direction and still have an aerodrome approximately at its centre.

As attacks on the cell increase to an intensity which puts too great a strain on a static defence, the commander can arrange for a move of the whole cell in a direction which will give him the advantage of fighting a delaying action on the front attacked, at the same time moving the opposite side of his perimeter outwards at a point where there is less or no opposition. He is not hampered by any considerations of holding a particular piece of ground, for all the territory he holds is enemy country; his only concern is to keep the cell as a whole astride the same line of railway or other communications which he originally severed, thereby continuing to keep them cut. If the enemy attacks on the cell come from their main reserve, the cell commander can continue this slow withdrawal process until such time as the opposite side of his perimeter meets serious resistance from troops withdrawn from the enemy main "front." It is not till serious attacks converge from two or three directions on it that the cell's "mobility as a whole"—and with that its life—is seriously endangered.

But meanwhile for some days at least not a single item of stores or ammunition, not a single man or vehicle, will have reached the enemy forces using the line that has been cut. If, moreover, a steady pressure has been maintained during this period by our main land army on the flank thus affected, the enemy's ammunition reserves will have fallen very low, at least in that area. The final phase would then be a general attack by our land (including of course mobile) forces on that flank. The enemy forward troops would find themselves attacked in front, hemmed in by a barrier of the cell machine guns in rear, and with their ammunition reserves seriously depleted if not exhausted. Our main attack

should then be able to crumple up that flank very much more easily than if there had been no preliminary starvation by a cell. In the final stages of the attack the remainder of the cell forces would rally behind a screen formed by the mobile land forces, and could emplane for a well-earned rest.

So far the fortunes of a cell have been dealt with on the assumption that the element of surprise is telling in its favour. Up to a point this is justifiable; but let us now consider what might happen if the enemy were alive to the possibility of such an attack and were on his guard against it. In the case of attack while in the air the cell forces are simply an air convoy in a situation exactly analogous to a convoy at sea. It is the business of the air guard commander to drive off the attackers, or alternatively to order the first flight of the cell back till further fighter reinforcements can clear the airway. In either case the land troops are exposed to no risks en route other than sporadic and minor attacks which in the air may be unavoidable, but can do little real harm.

Once the cell has begun to form on land it is exposed to attack by normal methods. Let us assume the worst case, namely, that the enemy are prepared for it, and have a force in motor vehicles available to meet it. Troops on foot are obviously useless, unless they happen to be within the eventual perimeter of the point attacked: marching at $2\frac{1}{2}$ miles per hour, they would take many hours to arrive. But motor-transported troops may begin to arrive on the scene within an hour under the most favourable conditions. This is precisely the case in which air and ground troops can co-operate to deal with the situation most effectively. A column of motor transport advancing against the cell is relatively easy to see from the air. Air patrols flying over the most probable areas from which attack may come must locate and engage the enemy column as far out from the cell as possible, and should be able to block the roads sufficiently to delay it, and give the cell units time to adjust their dispositions and concentrate to meet the attack.

If the attack is so serious that expansion of the cell in that direction becomes impossible, the solution is to readjust the whole "future" position of the cell by reconnoitring and allotting a new central landing ground further from the attack, and moving the rest of the perimeter to suit. In the twelve-mile stretch of railway included in the readjusted perimeter, even if it be not the best area previously selected on the available information, there must be bridges and culverts, etc., the destruction of which will take a long time to make good; and it would be most unfortunate if in the short time available the enemy were able to dislodge cell troops from their main objective—the bridge or viaduct—before the accomplishment of their task.

Finally, should attacks be delivered from two or three sides and prove of such intensity as to endanger the existence of the cell, there is, in the last resort, a logical air analogy to a process of withdrawal on the ground: a proportion of the cell forces can be detailed as rearguard to protect the emplanement of the remainder. The brunt of such action would of course fall on the rear parties, who must be prepared after they have fired their last shots to retire as rapidly as possible. As they have machines in which to carry out the manoeuvre, they can in a very short time be five miles away from the place where those last shots were fired, and re-emplane at some pre-arranged spot. As they possess anti-tank guns, even tanks will have difficulty in closing with them: and they should be able to get twenty minutes' grace in which to get into the last aeroplanes themselves. If night flying is possible, darkness should make the whole withdrawal process an easier matter.

The possible application of air-borne forces to the "rear attack" on the land communications of an army has now been discussed. But this is not the end of the possibilities of such forces. A consideration of other objectives might be useful. Such objectives are the immovable factories which supply the means to war, and industrial railways themselves. In the later stages of a war such objectives might fall within reach of an advancing army's aerodromes. In our age the objective is beginning to shift from the wielder of the sword to its maker—not because the maker actually does the harm, but because he cannot move his workshop, which is more than ever an indispensable instrument of war. We can bomb his workshop, but the moral effect of bombing may injure the attacker more than the defender. The effect of a bomb, even though the aim is more accurate than it was, is uncertain, and it is deplorable that at any time women and children should be hit, as may well happen. An air-borne force surprising a factory might do more efficient damage to machines and plant with sledge-hammers and explosive charges in a very short raid than the largest bomb, and with less irritation to public opinion.

With the great flexibility of aircraft, organized raids on factories a hundred miles behind a land army front would effect a surprise, or compel an enemy detachment of large size to protect all of them. The procedure would be much the same as in the cell attack on communications, but shorter and sharper. The dispositions would vary with the nature and local conditions of the objective, but one success should exert a moral effect out of all proportion to the cost of the enterprise. Thereafter the mere threat of such attacks might compel the enemy government to provide protective troops; and these must be supplied to the detriment of the main army—a fact which in itself constitutes

no small success—or from lower-grade local reserves, with whom the air-borne picked troops should be able to deal easily. Such a menace would act as a sword of Damocles over thousands of square miles of enemy territory, able to deal irreparable blows with startling suddenness.

Again, the eventual powers of such air-borne forces seem to be of the utmost value to the widely scattered British Empire, one of whose difficulties is distance and therefore dispersion. Quick relief of its garrisons is of great importance; but, at present, land or sea transport is the only feasible method of achieving this end. A small reinforcement arriving early is of many times greater value than a larger but later reinforcement—perhaps so late that the original garrison has fallen. We might thereby avoid the staging of that hazardous operation of war, a combined naval and military operation.

Armies of to-day are still largely bound to the strategical speed of railways and shipping, which is not much more than fifteen miles an hour. Their tactical speed is in process of acceleration, but the majority are still foot soldiers. Are we not now on the brink of a deeply significant change? If air transport for ground troops is perfected, can we not organize small but supremely energetic forces, endowed not only with a tactical speed of twenty to thirty miles an hour, but a strategical speed of nearer one hundred miles an hour? The Air Force has initiated chains of landing grounds for their fighter units; could not their usefulness be extended to the transport of ground troops, so that with sufficient aircraft equipment a definite aerial staging system could be established covering Africa, India, and the Straits Settlements? With a central reserve situated about Sinai, we should then have one of the most mobile forces in the world, capable of throwing reinforcements across continents with a rapidity which would revolutionize all existing calculations. In modern war the placing of some troops in a desired area first is a strong trump card; owing to their delaying power, they can make time for the arrival of slower-moving main forces. If that time is not created, the main forces may be compelled to attack under disadvantageous circumstances, and the cost of the whole business in men and materials rises enormously. If the addition of an air-borne force can make the difference between staging an opposed landing or avoiding the necessity for it, there is no question that it is the cheaper method of securing the desired result.

The air-borne cell method appears also to be applicable to the seizure of a land base in hostile territory. If the central landing ground is situated on the sea coast, a semi-perimeter could easily be reached within a day which would guarantee a thoroughly defensible "beach-

head"—or indeed a number of them, since with the vehicles provided a withdrawal is possible. A commander planning a descent on a certain coast could add feint landings to his list of surprises, and divert his main force, following in ships in the usual way, on to whichever of these preliminary landings offered the best advantages.

Again, internal security problems would be greatly eased by the aid of air transport. In India, for instance, the troops, instead of being scattered in small garrisons, could be more concentrated, thus making their routine training and maintenance easier and cheaper, while sufficient forces could be despatched by air at short notice to deal with local trouble within a very wide radius. Their better concentration would allow of much greater ease of mobilization for major operations. Much the same arguments probably apply to other areas which British forces have to police. The virtual effect would be that of multiplying many-fold the strength of the garrisons by increasing their range and speed of action. Small insurrections could be nipped in the bud before they attained serious proportions, and a punitive force, either in vehicles or not at will, could come directly to grips with the offender.

Once the principle of air-borne forces *equipped with vehicles* is conceded as a valuable adjunct of more ordinary methods, many other opportunities for their use may arise. The practicability of the method—and how soon, if at all, it may become applied mechanics—depends on experimental trials and their necessary cost. The next step is to create a reserve of the appropriate equipment. The aim must be to attain the highest possible military mobility. Time is the essence of success in war, or possibly, nowadays, in its prevention. In the air-borne force the man, his machine gun, his vehicle, his rations and his aeroplane are one indivisible unit and must be treated as such, if this increased mobility is to become a fact. Since forces of a higher mobility must in the end reduce slower moving troops to second place or even worse, he who can first wield such forces in practice should reap great advantages in time of war.

COAST-ATTACK SHIPS IN THE LATE WAR¹

WE are so prone to think of the functions of the Navy in terms of high sea warfare—the duels of great battle fleets, dashing cruiser and destroyer actions and the protection of shipping—that the age-long calls on the Navy to assist military operations on an enemy's coast are wont to be forgotten in the piping times of peace. It is a startling fact that in the greatest war the world has ever seen, the British Navy fired infinitely more ammunition in coastal operations than in high sea warfare. The effect of this coastal warfare was to revive a type of vessel which, in its modern form, we can trace back to the first "Monitor."

Perhaps credit for the idea of such a ship should be given to Captain Cowper Coles who, in 1855, mounted a 32-pounder on a raft, during the Crimean War, and who evolved the system of training a gun on a turntable with a winch, instead of jerking the carriage round with tackles and handspikes. However this may be, Ericsson designed his famous "Monitor" in 1861 with a pair of 11-in. guns in a turret, and embodied in her the forerunner of two distinct types of modern warships—the coast-attack ship, and the turret ship which has become the battleship and battle cruiser of to-day. Two prophetic communications from him, explaining the origin of the name "Monitor," are of interest. Writing to the Assistant Secretary of the Navy on the functions of this novel vessel, Ericsson says: "The impregnable and aggressive character of this structure will *admonish* the leaders of the Southern Rebellion that the batteries of their rivers will no longer present barriers to the entrance of the Union Forces. The ironclad intruder will thus prove a severe *monitor* to those leaders." Here we have the clear conception of the coast-attack vessel. Twenty-four years previously, Ericsson failed to make good his claim against the British Admiralty to have been the originator of a screw propeller. Possibly this rankled, anyway we find him writing to suggest that this latest "Yankee notion" may prove a monitor to the Admiralty in their policy of building broadside ironclads. Certainly his design materially affected the introduction of turret ships.

The coast-attack ship as a unit of the British fleet is, however, to be found in earlier form in the bomb ketches introduced in the XVIIth

¹ The essential parts of this article appeared originally in the JOURNAL for February, 1924, as the report of a Lecture on "Monitors in Modern Naval Warfare," by Captain E. Altham, C.B., R.N.

Century, which afterwards increased in size to bomb vessels or, as they were known, "bombs." These vessels were assigned a clearly defined role by naval forces engaged in the frequent coastal operations of those days. The Navy was well used to this form of warfare and our wise old forefathers equipped the fleet accordingly.

At a much later period we find a latent idea of the coast-attack ship in the old coast-defence ships of the "Cyclops" class, whose draught had been reduced to 15 feet from the 22 feet of their predecessors, with some idea that they might be used for attack within easy reach of our shores. The policy had become confused, however, and the notion of defending our coast with isolated ironclads was so palpably unsound that the ardent "blue water" school swept them away, and it was not until 1914 that we were faced again with the problem of this form of naval warfare.

The early months of the late war saw the beginning of the Navy's work on the enemy's coast. The German avalanche swept down upon Belgium; the rush for the Coastal Ports began. "Calais!" was the battle cry of the right flank of the German Army. The Belgian forces falling back towards the coast, turned their eyes to England and looked seawards for help in their dire adversity; and it came in the nick of time. Our dockyards and graveyard anchorages were ransacked for "expendible" vessels. A flotilla, which the Germans scoffingly proclaimed would disgrace a sixth-rate naval Power, arrived off the coast and enabled the Belgians to make a stand on the line of the Nieuport Canal. That flotilla contained ships like the ancient gunboat "Excellent," launched in 1883, and the "Bustard" of 1871—both monitors in embryo form; the old sloops "Vestal," "Rinaldo," and "Wildfire" (which I had the honour to command), and two old cruisers. Even before these could be put into fighting trim, three monitors building in this country for Brazil had been taken up and commissioned as the "Mersey," "Severn" and "Humber," and with a few old destroyers were already battling with the enemy when we, in H.M.S. "Wildfire," arrived off the coast on Trafalgar day, 1914.

This little force continued for weeks to harass the German advance, repeatedly bombarding at point blank range and heartening the sorely pressed Belgians to cling on to the line of the Nieuport Canal. It was very largely due to the ships that that line was never crossed and Dunkirk and Calais were saved.

The experience of these early operations brought into prominence at once the importance of having ships suitable for coast-attack work. By December, the old battleship "Redoubtable" (originally the "Revenge") had been added to the command; other old battleships

made fleeting appearances on the coast, but the waters were too shallow for ships of that class and it soon became apparent that they were not suitable for work of this nature.

The 1914 Belgian coast operations also renewed and confirmed long-standing principles governing the use of ships against an enemy ashore. I cannot do better than quote from a letter which the late Rear Admiral Sir Horace Hood wrote to me in December of that year. He said : " If a real, serious advance commences with the idea of pushing back the enemy and making him move back his guns and of pressing home to Ostend, I am quite sure that the fleet can co-operate and be of real assistance. It is now eight or nine weeks since the bombarding commenced and during that period our ships have bombarded for four or five weeks. It is quite a mistake to think that *ships' guns* can knock out *shore guns* ; they cannot do so, it is *an axiom*. What the ships' guns can do is to cover an area, create a diversion, cause damage to masses of men (he meant men in massed formation in the open, such as we had to deal with in the first stages of the enemy's advance), and possibly temporarily silence the guns ; if, therefore, the army advance in force and advance their big guns, it is probable the enemy guns will be captured or else obliged to retire, which at once eases up the strain on the ships and enables them to do good work. I am doing all that I can to prevent the Admiralty from allowing any more bombarding unless it is really intended to push to Ostend ; then we must manage to keep up a real hot fire. It is quite all right *if* we are doing good ; but we do not do any good against invisible guns on shore."

The continued presence of the ships on the Belgian coast had a very marked effect on the situation, however, without maintaining a continual bombardment. They constituted a perpetual menace to the German right flank and forced him to create the greatest chain of batteries and coast defences the world has ever seen to guard against a landing in its rear. In contrast to this, on the Allied side there was little more than barbed-wire defences at likely landing places. The shore artillery was almost entirely devoted to the support of the line, and from Nieuport to Dunkirk there were no heavy batteries firing seawards, except the local defences of the latter place. The French were content to rely almost entirely on the ships, to defend their left flank, and this situation endured throughout the war.

MODERN MONITORS

Ericsson's " Monitor " was commenced in October, 1861, and fought her famous duel with the " Merrimac " only five months later. Even Lord Fisher couldn't better this example of hustle, when he

initiated the construction of the fleet of monitors in the late war. The new monitors were divided into two main classes—the smaller with armaments varying from a single old 9.2, down to one with a couple of modern 6-in. ; and the larger monitors each with a pair of 12, 14 or 15-in. guns.

The small monitors were sturdy little vessels, and proved most useful in such diverse theatres of war as the Belgian coast, the Eastern Mediterranean, Home waters and North Russia. Intermediate to these two classes were the three "Humber" class already alluded to. These useful ships, having served their purpose well on the Belgian coast, went out East. The "Severn" and "Mersey" were chiefly responsible for the destruction of the "Königsberg" in the Rügen River. The "Humber" in due course joined my command in North Russia and was the most powerful vessel we had in the Dwina River Operations in 1919.

The large monitors were nearly all called after famous Generals. For instance, my own ship was H.M.S. "General Craufurd"; then there were the other 12-in. gun ships—the "Lord Clive," "General Wolfe," "Sir John Moore," "Prince Eugene," "Prince Rupert," "Sir Thomas Picton," and the "Earl of Peterborough"; and the 14-in. gun ships—"Roberts," "Raglan," "Napier," and "Abercrombie." The two earliest 15-in. monitors were called after distinguished French commanders, the "Marshal Ney" and "Marshal Soult"; but two later ships were given the more conventional names of "Terror" and "Erebus." There seems very little doubt that this fleet of monitors, built for the most part in 1915, was intended by Lord Fisher for his great landing project in the Baltic; but before there was any chance of that materializing, urgent claims were beginning to arise in existing theatres of war.

Our original scratch pack on the Belgian coast had long since been outranged by heavy batteries growing up apace on the enemy's seafront, and the value of the ships in support of the allied left flank was becoming steadily less. The Dardanelles operations had taken toll of several old battleships and, with the increasing danger of submarines, H.M.S. "Queen Elizabeth" had to be withdrawn. To replace these ships, all four of the 14-in. and two of the 12-in. large monitors and a number of small ones were sent out to those waters.

THE BELGIAN COAST

The 12-in. monitors began to arrive on the Belgian coast in the summer of 1915, and from then onwards large monitors became firmly established units of the Dover Patrol, as it was called. For the most

part they were based on Dunkirk, and worked from that port up the enemy coast ; but their duties were manifold, and a brief description of some of the more important will show you that the Monitor Squadron did not have a dull war. Firstly, they were the miniature battle squadron of the Dover command. Behind us all, so to speak, was the shielding wing of the Grand Fleet, covering the main German naval forces ; but, locally, the monitor squadron, or even a single monitor, acted as the covering force for the lighter craft.

On their daily patrols, when they trailed our coat, as it were, in front of Ostend and Zeebrugge, a single big monitor would very often support a little force of one or two small monitors, four destroyers and two pairs of minesweepers. Sometimes, trawlers would come out as well, and work industriously repairing mined nets almost within range of the enemy's batteries ; while the mother monitor, with her brood of small craft, watched over them until the work was done. Enemy destroyers often appeared, but were very chary of getting within range of the monitors' big guns, always making off at once if they came under fire.

The monitors' own special work, of course, was bombarding, and this, in conjunction with intensified bombing, eventually forced the enemy to abandon to a great extent the use of Zeebrugge and Ostend as ports, and even made his vessels and submarines take refuge as far up the canal as Bruges. We have already noted how the continued threat of these bombardments and the presence of British naval forces on his left wing compelled the enemy to construct huge defences and to keep a considerable force always locked up on the coast—a continual drain on his resources.

It is not desirable to go into technical details of bombarding, but to show what a high pitch this form of naval gunnery had attained in the latter stages under Sir Roger Keyes's command, it may be mentioned that the monitors could fix their position out of sight of the coast by wireless and fire at night in a smoke screen or when the visibility was too poor to see the shore, without any external point of aim. The first time that the latter was done was during the Zeebrugge operations. Aerial observation of fire, which was so vital to bombardment at long range, is such an important subject that it deserves a word to itself.

OBSERVATION OF FIRE ON SHORE TARGETS

After our early experience in 1914 of bombarding shore targets invisible from the ships, I was sent to Belgium to organize the system of observation of fire for future bombardments. We did what we could with the primitive means at our disposal, but any system dependent on a fixed station is only efficient over a very limited distance from that

station, and the difficulties of distinguishing between the individual shots of a particular ship and the mass of other firing, and of signalling off results quickly and accurately, were immense.

It was at once apparent that some other system of observing fire was essential, particularly for bombarding further along the coast. The normal means of correcting fall of shot by direct observations from aloft in the firing ship was useless where the targets were hidden behind sand-dunes. There remained observation from the air. It was my good fortune to be associated with the investigation of this problem from its earliest stages. We started experiments with the old "Redoubtable" in the Thames estuary, and these were followed by the inauguration of a primitive school for the first Naval Observers at Calshott, at the entrance to Southampton Water. Early in 1915, observation of fire from the air was being attempted in the Dardanelles. On the Belgian coast, unfortunately, a quite useless and impracticable system of observation from platforms poised on huge tripods dropped into the sea in the shallow water off the enemy's coast was persisted in for long, and it was not till experiments carried out by H.M.S. "General Craufurd" and a seaplane carrier had conclusively proved the value of aerial spotting, that this superseded all other methods.

The one outstanding feature, once the material and organization had been made efficient, was the vital necessity of having a flying and observing personnel completely familiar with the ships and their work. It was the fact that we could get hold of the Observers and show them how their signals were used, what our difficulties and requirements were and that we were also enabled to understand their troubles and capabilities, which enabled us to make a success of the system. At Dunkirk the monitors and aerodrome were within easy hail of each other; also there was the R.N.A.S. element, and a nucleus of R.N. officers in the local air forces even after they became the Royal Air Force.

Three years experience of bombarding on the Belgian coast, and two further years afterwards in North Russia, commanding a flotilla of monitors and seaplanes, have all impressed on me the vital need for the Navy's air services to be performed by naval officers, brought up in the Navy under naval discipline and command, and trained by the Navy in what are essentially naval functions. There can be no compromise. Any other system is incongruous and, in war, spells inefficiency, which may lead to disaster.

ANTI-AIRCRAFT WORK

At one time a number of large monitors were stationed in the approaches to the Thames in the hope of bagging a Zeppelin flying low

on its way to bomb London. This they never did, but our 12-in. high-explosive shell and anti-aircraft guns were sufficiently effective to make German aircraft exceedingly chary of coming too close to us. The big H.E. shell produced what (to use an Irishism) may be described as an "aerial earthquake," the effect of which was to shake severely the equilibrium and nerves of any pilot within the effective zone, even if his aeroplane was not actually hit. I would commend the "aerial earthquake" idea to those responsible for our anti-aircraft defences.

THE GREAT LANDING SCHEME

In the summer of 1917, the six 12-in. monitors were interned in a desolate spot at the mouth of the Thames to prepare for a great landing on the flank of the German Army. A novel scheme for landing the troops was to have been adopted. A pair of monitors, lashed together, pushed ahead of them a huge shallow draught pontoon. This was to have been forced up the beach, and by this means three teams of monitors would discharge three brigades; the latter had also been interned and specially drilled in climbing a reproduction of the sea-wall.

The scheme, whatever its practicability in other respects, had the merit of being the first serious attempt to solve the problem of landing tanks from ships at the head of a storming party. This is a feature of combined operations under modern conditions which needs the serious attention of the Navy. In this case, three tanks were to be carried at the head of each pontoon and, provided the latter succeeded in getting into sufficiently shallow water, the tanks would have taken the first shock of the assault. Our experience showed that this pontoon system of landing an army is only suitable for a short voyage in calm water and with a fairly regular shelving sandy beach, like the Belgian coast.

The impression one got, after a detailed examination of the defences after the Armistice was that, if we had had luck and if there had been good staff work, the attack might have succeeded against the flank of an enemy already about to retreat as the result of a grand advance by our armies further inland. As a frontal attack and under the conditions which obtained at the time, it would probably have led to disaster, even had we got the Army ashore.

The whole story of the Zeebrugge-Ostend operations is too well known to need repeating here, and the large monitors could only take a modest share in them; but the bombardment which covered the approach of the gallant "Vindictive" and block ships was an essential feature in an intricate plan.

Those were but a few of the variegated duties of the monitors, but they will give some idea of the very active part those vessels played in what may be termed the "front line trenches" of the Navy. Their amazing immunity from casualties was essentially due to the suitability of the ships for their work. The heavy losses to the old battleships employed for coast attack have already been alluded to.

The large monitors, in company with the old "Redoubtable" and certain old cruisers, were the first ships to be fitted with the bulge. Not one of these vessels was sunk by a torpedo. The "Terror" was hit by three torpedoes in quick succession, all in the fore part. She made her way to Portsmouth, and was repaired and back on her station in a few weeks. The "Erebus" was hit amidships by an explosive motor-boat with a large charge. She steamed to Portsmouth at 12 knots and was back on the Belgian coast in a fortnight.

In conclusion, I venture to urge the importance of keeping the Monitor type alive in the fleet. We cannot afford to maintain a great squadron of monitors such as we had on the Belgian coast, but the late war showed conclusively the danger of using battleships for coast-attack work, and the necessity for suitable vessels for this class of warfare. In those days, it should be remembered; we had a lot of old battleships—expendible, as far as the Main Fleet was concerned. Now we have *none*. If some second or third rate Power has to be engaged by a landing, or by coastal operations, we should have to risk deep sea vessels, vital units of our perilously reduced Main Fleet, to perform monitor duties. It seems to be sound insurance against such disaster, and therefore true economy, to maintain a small force of coast-attack vessels in readiness for such a situation; this was done by our forefathers who had a live appreciation of the needs of such warfare. We may not have to fight another Trafalgar or another Jutland for a century, but it is just these side shows which the Navy is repeatedly being called upon to meet, and we cannot afford to risk our main forces on them, for fear the big issue should find us at a disadvantage.

In the late war some of us learnt a good deal about what such ships could and could not do, what were the requirements of this class of warfare, and how far the large monitors fulfilled these requirements; but I think we should do well to consult the Army before designing any more. They can teach us a lot about indirect firing and the attack of shore targets, just as, I believe, we can help them in their new problems of attacking rapidly moving and armoured targets in the shape of tanks.

Finally, I suggest that one or more of these *coast-attack* (not defence) vessels, as they really are, should be used for systematic training in all

those amphibious duties which the Navy is continually being called upon to perform, but which it is so difficult to combine with the exercises and practices of the Main Fleets. In addition, these vessels could be used with advantage as connecting links in combined training, which we talk about so much, but which it is so difficult to carry out in practice. With them it would be possible to investigate in practical form those many new problems in co-operation which new methods of warfare by land, sea and air have introduced.

It is as well to keep in mind the fact that it was the type of vessel known as the Monitor which, in the most recent naval warfare, still enabled us to carry on, even if in modified form, the old national tradition that "England's frontiers are every hostile shore."

ANTI-AIRCRAFT ARTILLERY¹

EVEN before 1914, when most people visualized military aircraft with a speed of no more than 75 m.p.h. and a ceiling of about 4500 feet, the artillery arm was engaged in studying problems of anti-aircraft defence. The feeble performance of the 75-cm. (3-in.) field gun, with its low muzzle velocity, against these new targets had been fully recognized. The French Army authorities had decided, therefore, upon a 4-in. weapon—model 1913, several types of which they still have.

On the outbreak of war in 1914, an immediate solution had to be improvised; and for better or worse, the 75-cm. field gun was adapted for anti-aircraft fire. By utilizing the field guns which they had captured during the period of rapid advance in the early stages of the war, the Germans, too, were able to provide an anti-aircraft armament of equivalent power to the French. As the struggle went on, various improvements were made; the shape of projectiles was altered; planned shoots were carried out, but the end of the war saw the opposing armies with A.A. equipment of much the same ballistic properties as at the beginning. However, there had been cause for congratulation in the reduction from an average of 3000 to 1500 rounds expended in shooting down one aeroplane.

Peace left the Allies in possession of an immense quantity of A.A. artillery, which there was no point in renewing until the necessity became imperative. As far as the Central Empires were concerned, the question was settled by the Treaty of Versailles. Those ex-neutrals who found themselves in a position to rearm were the only nations able to do this free from the compulsions of an immediate decision which had weighed so hardly on the belligerents of 1914. These ex-neutrals had to reckon not only with the lessons of the late war, but also, naturally, with the experiences of recent practice shoots. Nevertheless, they showed themselves timid, both in their conceptions and in their choice of armament, limiting themselves to calibres in the order of 75 cm. with slightly increased muzzle velocities.

In 1914, navies also had to prepare rapidly measures of defence against aircraft, and installed in their heavy ships A.A. equipment of similar power to that adopted by armies. Naval designers, however,

¹ This is a summary of an article by M. Camille Rougeron, published in *L'Europe Nouvelle*.

very quickly recognized the inadequacy of this armament, and incorporated in warships built after 1918 A.A. equipment of calibre and muzzle velocity perfectly adapted to cope with the aircraft existing at that time. Calibres of 4 in. and 5 in., muzzle velocities of 2400 to 2700 feet per second, the adaptation to A.A. fire of the 6-in. and 8-in. guns, which formed the principal armament of cruisers and were rendered capable of elevation to an angle of 60 degrees, made the warship potentially very secure against attack from the aircraft of low speed and modest ceiling of the type of fifteen years ago.

However, when Rolls-Royce, in 1930, designed the first super-charged engines for aircraft, all existing A.A. equipment immediately became obsolete. These new engines increased the speed of military aircraft to over 200 m.p.h., and above all raised the ceiling, which, through the necessity for pursuing Zeppelins, had reached in 1916 about 15,000 to 16,000 feet, to a height exceeding 30,000 feet. Even if the authorities could still harbour illusions about the efficiency of a 3-in. A.A. gun with a muzzle velocity of about 1700 feet per second and a maximum ceiling of about 15,000 feet against the older types of aircraft, the latest developments compelled them to reconsider the position and to produce new and improved designs.

The French artillery experts chose a 75-cm. gun—model 1932, with a muzzle velocity of about 2100 feet per second. This weapon was first shown to the public in June, 1939, with an indication of its performance, at the exhibition held at the *Esplanade des Invalides*, in Paris.

The German authorities preferred an equipment of 3.5-in. calibre with a muzzle velocity of about 2500 feet per second, which they constructed in large numbers as soon as they had freed themselves from the military clauses of the Treaty of Versailles.

THE SPANISH CIVIL WAR

Towards the end of 1936, the German A.A. gun placed at the disposal of the Spanish Nationalists showed its hitting power, while the Government artillery, equipped for the most part with guns of 75-cm. calibre, gave proof of its utter inadequacy.

As soon as the first German batteries of 3.5-in. calibre reached Spain, the Government bombing raids on the Nationalist back areas, troop convoys, camps, and supply columns, which had been effected with but slight loss to the attackers, were abruptly checked. The raiders had become accustomed, in the absence of any reaction from the artillery, to fly at 6000–8000 feet, to throttle down before releasing their bombs and to carry out operations in a slow and deliberate manner. All this had to be quickly changed. Several aeroplanes, working in accordance

with the old routine, were shot down at the first salvo. The losses in aircraft, which up to date had been negligible, became severe. After rapidly summing up the results that were being secured against the risks that were being run, the Government aircraft practically gave up bombing raids altogether. By the action of A.A. artillery alone, therefore, the Nationalists succeeded in safeguarding their rear areas.

The Spanish civil war also affords proof in a contrary sense of the value of A.A. fire. As soon as German and Italian aircraft began to reinforce the Nationalist aviation, the latter was emboldened to imitate the tactics of the enemy by bombing his rear areas. The Government artillery, however, was scarcely in a position to offer any effective resistance. But the weakness of this artillery was masked by the action of the Government fighter aircraft, which succeeded right up to the end of the war in blocking the regular execution of bombing raids on the Government rear areas.

In some cases, the results of the lack of power of the Government A.A. equipment could not be offset, particularly when guns alone were engaged with enemy aircraft. During the bombardment of the great cities of the Mediterranean coast, such as Barcelona and Valencia, by Nationalist aircraft based on Majorca, the fighter machines of the defence could not be given sufficient warning in time to reach the necessary flying height. The defence was forced to rely on artillery fire alone, the weakness of which was admitted even in Government communiques. Whether attacks were delivered from a height superior to the ceiling of the A.A. artillery, tactics which would be adequate for the bombardment of a town or harbour, or whether the Nationalist aircraft flew into the zone of fire of the artillery but at a speed too high for the guns to shoot with effect, the powerlessness of the Government artillery was complete. For months, one raid took place after another, without a single bomber being shot down.

In their usual bombastic way, the German authorities glorified their successes. Comparing their A.A. artillery with that of their possible enemies, Hitler and Goering declared that its strength would protect German soil from all incursions while thousands of their own bombers would carry out raids unmolested by an A.A. equipment, the inadequacy of which had been demonstrated in Spain. And, as the years passed, regiments of German A.A. artillery were formed by tens and guns were constructed by thousands.

LATER DEVELOPMENTS

Public opinion in France and Great Britain became uneasy: it was evident that the situation as regards A.A. artillery was as bad as that of

aircraft construction. Questions were asked in the British Parliament, and action was suggested against members of the House of Commons who were accused of violating military secrets by indiscreet questions. Only one solution was feasible—to develop as quickly as possible equipment of great power, of which the details of construction had formerly been under dispute.

In France, the answer was simple. The construction of the 90-cm. (3.5-in.) Schneider gun, which had been accepted some years previously by the navy but not by the War Office, was hastened on. In Great Britain, the authorities produced rapidly a prototype of the 3.7-in. A.A. gun and pushed on its construction with unwonted activity. To-day, therefore, France and Great Britain, even if perhaps they have not parity with Germany in the number of A.A. guns, can at least oppose the 3.5-in. German weapon with an armament of equal power.

After more than three months of experience, repeated several times a week, a broad appreciation of the effects of A.A. fire could be formed. For one thing, millions of soldiers had seen the guns at work; populations upon whom tracts had been showered could judge for themselves the truth of official declarations on the inviolability of their territory supposing that the pamphlets had been transformed into bombs. Finally from the French, English, and German communiques, the elements of a sound judgment could in the long run be drawn.

It was an incontestible fact that aircraft flew overhead; they winged their way over France and Germany, Paris and Berlin; over the lines they performed acrobatic feats in side-stepping the fire of the A.A. guns. Occasionally they were shot down, but as a rule the fire of the artillery had little effect. Aircraft learnt to recognize the conditions in which they could escape from the fire of the guns; they gradually discovered the ceiling at which the fire of A.A. artillery ceased to be dangerous. Aircraft which undertook photographic missions over the lines at 9000 feet failed to return. Bombing machines dispatched on reconnaissance duties far into the interior of enemy countries, flying at a height of 24,000 feet, proved that they could fly lower without inconvenience. Agreement was reached that aircraft flying at 15,000 feet were in perfect safety from A.A. fire. They were, of course, much less safe from fighter aircraft; but that is another question. Besides, high speed in conjunction with cloudy weather offers a means of defence against fighters. For it was precisely the use of cloud-cover by high-speed machines that showed up the weakness of A.A. fire directed against aircraft, which might escape from the action of the defensive fighters.

THE USE OF CLOUD-COVER

The exploitation of the cover afforded by clouds, above all when the cloud formations were not too dense, thus permitting the mission to be carried out without straying too far from cover, was one of the revelations of the first few months of war. Official communiques have frequently announced that distant expeditions have been carried out in cloudy weather. Swooping suddenly out of the nebula for the accomplishment of their mission, aircraft completely upset the defensive measures of the A.A. guns as well as the fighters. The time taken in recognizing and pointing out the target, the adjustment of the electrical apparatus and the slight delay in inter-communication, all tended to allow aircraft to escape before fire could be opened. Aircraft were thus able to fly at lower heights than would have been possible if the route, the speed and the range could be readily calculated by the instruments of the A.A. artillery. When they were exposed to the much more dangerous A.A. fire of warships, machines made use of their ceiling to avoid it. Ignoring the early raids, which were carried out at very low altitudes in conditions differing from those which we are now studying, there have been several examples of aircraft being shot down at 12,000 or 15,000 feet when attempting to bomb ships. The ceiling of bombing raids was raised and the most recent German expeditions against the Shetlands, as well as the British attack of 3rd December, 1939, upon Heligoland, were carried through without loss of aircraft. This latter raid affords an example of a fleet at anchor being spotted and bombed through cloud layers.

The possession of several thousands of A.A. guns of far higher performance than that of the enemy added to an almost equivalent superiority in bombing aircraft, naturally tended to make the wielders of this armament regard without misgiving the development of a war, in which by general consensus of opinion, aviation was to play an essential part. Supposing that to warfare on land or to warfare at sea a decisive role had been attributed, how could any enemy doubt of success if he enjoyed an equivalent superiority in field artillery or in ships of the line?

Nevertheless, there are cases where to see more clearly than the enemy is not enough; the correctness of relative views does not always carry with it the accuracy of an absolute view. In the Kingdom of the blind, the one-eyed are not always kings. To engage with effect aircraft flying at a speed of 280 m.p.h. and a height of 18,000 feet, an artillery far more powerful than that selected by the German High Command was necessary. The German gunnery expert who decided on the calibre of $3\frac{1}{2}$ in. made a mistake. He deceived his master by

assuring him that if these weapons were provided in adequate quantity, he could protect the national territory. To-day, French and British aircraft fly all over Germany, and have given proofs of their ability to carry out bombing raids on the principal enemy cities, as soon as the decision is taken. It is always difficult to say with certainty, in war as at other times, what would have happened if one had acted differently. Nevertheless, if Hitler's specialists had been right and if their guns had been able to safeguard their territory, whilst thousands of their bombers launched attacks upon us, as they did on Poland, would we not have been able to paint a fairly accurate picture of events?

THE LIMITATIONS OF TECHNICAL EXPERTS

We may think therefore that we have had a narrow escape. But in reality we were not running any great risk for the mistake made was not one that can be laid fairly at the door of the specialist. When the limit of power of their arm is in question, technicians always have committed and always will commit the same errors. On these points, the supreme commander must himself give a decision. If we assume that the calibre of the German A.A. guns had been settled at 4 in. or even 5 in., what difference would it have made? Instead of flying at 15,000 feet, aircraft would have been compelled to rise to 21,000 feet or even higher. Would this extra height have been sufficient to safeguard Berlin or Essen from aerial bombardment? Against targets of such a size, an extra 5000 or 6000 feet make little difference to the accuracy of the bombing. Only those specialists, who predicted years ago that an accurate bombardment could be carried out only at a slow speed and at a ceiling not exceeding 9000 feet, would be disconcerted. These men asserted that a bombardment delivered at a speed of 280 m.p.h. from a height of 15,000 feet would be sheer waste of ammunition. They would certainly redouble their cries of distress if they heard of speeds of 340 m.p.h. to shake off the fighters and ceilings of 21,000 feet to evade the fire of the A.A. guns. Certainly these technicians, like their comrades in the artillery, had all the experience they wanted. It was not difficult for them to add to their peace-time studies lessons drawn from a struggle such as the Spanish Civil War, where so many different types of artillery equipment and aircraft were tried out and to crush by the weight of their arguments, other technicians, who might be bold enough to disagree with them. Specialists always have at call the experience or the lessons that they require to carry their point. It is the duty of the supreme commander to scan the wider horizon and to cultivate the broad outlook which he needs to enforce control of the technicians when they are in agreement or to give him the casting vote when they are at variance.

THE UNITED STATES NAVY

By FRANCIS MCMURTRIE, A.I.N.A.

Sketches by courtesy of *Jane's Fighting Ships*.

THE United States Navy is now stronger in both capital ships and destroyers than that of any other country. This, of course, does not take into account the formidable programmes of new construction which have recently been approved. For many years past the main strength of the fleet has been concentrated in the Pacific, with a strong advanced base at Pearl Harbour, Hawaii.

CAPITAL SHIPS

There are fifteen battleships in service, of which all but five were designed before the outbreak of war in 1914. Although these older ships have undergone extensive modernization, ten new battleships of much greater power now building or on order are intended to replace them.

The most modern battleships in service are the "Colorado," "Maryland," and "West Virginia," ranging from 31,500 to 32,500 tons in displacement. Each is armed with eight 16-in. and twelve 5-in. 51-calibre guns, besides eight 5-in. anti-aircraft weapons. Three aircraft and two catapults form part of the equipment, some of the weight absorbed by these being set off by the removal of the torpedo tubes formerly carried. This diminution of torpedo armament now applies to all American capital ships and heavy cruisers. Side armour of from 14 to 16 in., tapering aft to 8 in., constitutes the main protection. There are two armoured decks of 3½ and 2½ in., giving together 6 in. of horizontal protection. The thickness of turret armour varies from 9 to 18 in. All three ships are turbo-electrically propelled—a system which was formally very popular in the United States Navy, but has now been discarded. As designed, 27,300 shaft horse-power was to have given a speed of 21 knots, but on trials 36,000 or more was required to reach this figure. The "Maryland" was completed in 1921, and her two sister ships in 1923.

Two ships of similar design, which differ from the foregoing only in their displacement (32,600 and 32,300 tons, respectively) and in mounting twelve 14-in. guns instead of eight 16-in. as their primary armament,

are the "California" and "Tennessee," completed in 1920-21. In appearance they are also very similar to the three "Colorados," as they, too, retain the curious lattice masts which have now disappeared from the majority of American warships. All five are to be modernized in 1940-42.

The "Idaho," "Mississippi," "New Mexico," "Pennsylvania" and "Arizona," completed 1916-19, constitute one group with identical characteristics, except that the two last-named ships have speeds of only 21 knots as against 22-23 knots in the three former. All are armed with twelve 14-in., as in the "California" type, with the same secondary and anti-aircraft armament as in those ships. Since being rebuilt and re-engined their appearance has undergone considerable change; in fact they look, and indeed are in many respects, more modern than the "Colorados" and "Californias." All are propelled by geared turbines, and carry three aircraft and two catapults. In the "Idaho," "Mississippi" and "New Mexico," the protective decks have been augmented to a total combined thickness of 6 in. Displacements range from 32,600 to 33,400 tons.

Somewhat smaller are the "Nevada" and "Oklahoma," completed in 1915. On a displacement of 29,000 tons they mount ten 14-in. guns, with the usual complement of secondary and anti-aircraft weapons and of aircraft. Armour protection is a trifle less than in the later ships, and the speed does not greatly exceed 20 knots. The "Oklahoma" has triple expansion engines, the "Nevada" turbines.

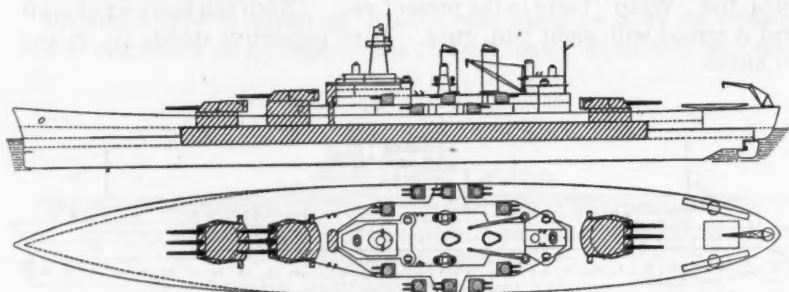
Two ships of definitely obsolescent type are the "New York" and "Texas" of 27,000 tons, completed in 1914 and modernized in 1926-27. Armed with ten 14-in., sixteen 5-in. and eight 3-in. A.A. guns, their triple expansion machinery gives a speed to-day of no more than 19 knots. Side armour is from 6 to 12 in. Bulge protection was added in 1926-27. It is proposed to increase the elevation of the 14-in. guns from 15 to 30 degrees, but in view of the reported intention to relieve these ships by the "Washington" and "Indiana," under construction, it is doubtful whether this alteration will be effected.

Oldest of all the U.S. battleships is the "Arkansas" (pronounced "Arkansaw"), of 26,100 tons, completed as long ago as 1912, though given an extensive refit amounting practically to reconstruction in 1925-27. Her armament comprises twelve 12-in., sixteen 5-in. and eight 3-in. A.A. guns, with side armour of from 5 to 12 in. She is turbine-propelled and is still good for 19 knots, but can no longer be reckoned effective for war purposes. She will be replaced in the course of 1941 or early 1942 by the new battleship, "North Carolina." Each of the above three battleships carries three aircraft, with one catapult.

In recent years they have been employed as a training squadron and have cruised in the Atlantic.

Battleships under construction include the "Washington," "North Carolina," "Indiana," "Massachusetts," "Alabama" and "South Dakota," all of 35,000 tons, of which the two first were launched in June last. They will be armed with nine 16-in. and twenty 5-in. guns, and are reported to have 16-in. side armour. Four aircraft and two catapults will form part of the equipment. Geared turbines of 130,000 S.H.P. are expected to give a speed of 30 knots, though originally 28 knots was contemplated.

Two battleships of 45,000 tons, the "Iowa" and "New Jersey," were laid down this year. Although their armament will be identical with that of the "Washingtons," they will have a much higher speed,



"WASHINGTON"

well above 30 knots, and are to cost about \$100,000,000 each. Two more ships of this type, the "Missouri" and "Wisconsin," have been authorized under the 1940 programme and will be begun as soon as slips are available for them. A vague suggestion that this pair might be of a still larger design, though not above 52,000 tons in displacement, was made in the course of a debate in Congress.

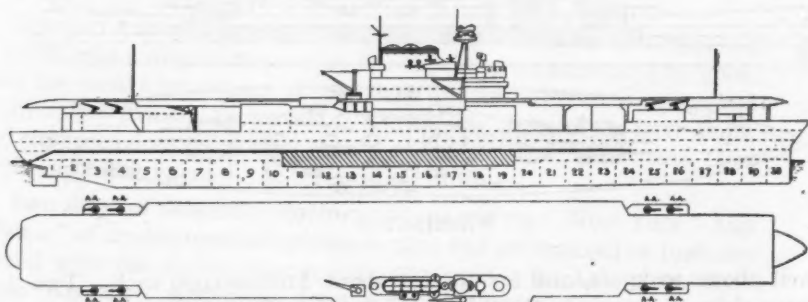
AIRCRAFT CARRIERS

In the "Lexington" and "Saratoga" the United States Navy possesses the largest aircraft carriers in the world, with a displacement of 33,000 tons, a speed of 33 knots and a normal complement of 81 planes, which can, if necessary, be increased to 90. Originally authorized in 1916 for construction as battle cruisers of 35,300 tons, when they were to have had seven funnels and boilers disposed on two deck levels, as a result of the Washington Naval Treaty of 1922 these two ships were completed in 1927 as aircraft carriers. They are armed with eight 8-in.

and twelve 5-in. A.A. guns, and are unofficially reported to have a strip of 6-in. armour on the waterline. Each ship has a full complement of 2122, including flying personnel.

It is intended to reconstruct and modernize these two ships in the near future so as to improve arrangements for anti-aircraft defence, damage control, and aircraft operation. The flight deck will be widened at the bow by 60 ft., and a bulge will be built along the port side for nearly the full length of the ship. This will add $2\frac{1}{2}$ ft. to the beam and will balance the weight of the island superstructure, making it possible to utilize the full quantity of oil fuel carried, instead of retaining some as ballast.

Two smaller aircraft carriers are the "Ranger" and "Wasp," of 14,500 and 14,700 tons respectively. The "Ranger" was completed in 1934, the "Wasp" early in the present year. Each can carry 72 aircraft and is armed with eight 5-in. guns. Their respective speeds are 29 and 30 knots.



"YORKTOWN"

The "Enterprise" and "Yorktown," completed in 1938, are the most modern aircraft carriers in the U.S. navy. Each is of 19,900 tons displacement and normally carries 81 aircraft, though there is space for 100 in emergency. Armament is eight 5-in. guns and their speed 34 knots. A third ship of this type, the "Hornet," was laid down last year, and a fourth, the "Essex," is to be built under the 1940 programme.

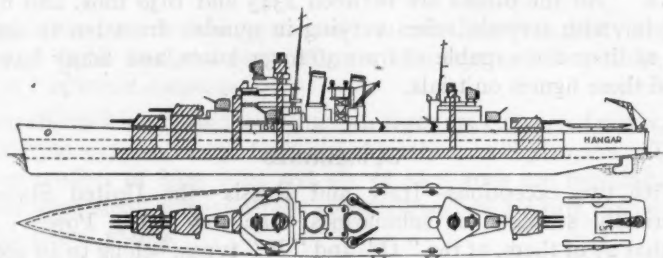
CRUISERS.

There are eighteen heavy cruisers of from 9050 to 9950 tons, completed during the years 1929-39. All are armed with nine 8-in. guns, with the exception of the two first built, which mount ten. Speeds are in the region of 32 knots in every case. Protection varies, being very

much more extensive in the later units, where it extends to as much as 5 in. of side armour amidships, with decks of equal thickness. All carry four aircraft, with a couple of catapults. The most modern unit is the "Wichita," of 9324 tons, completed last year.

In addition there are nineteen "light" cruisers, so called on account of their being armed with 6-in. guns. Ten of these are of the "Omaha" class, vessels of 7050 tons, completed in 1923-25. On trials all exceeded 34 knots. Seven of them mount twelve, and the other five ships, ten 6-in. guns as their main armament, while all carry four aircraft and two catapults. Protection is very slight.

Much more powerful are the nine vessels of the "Brooklyn" class, completed during 1938-39. With displacements ranging from 9475 to 10,000 tons, a speed of over 32 knots and a main armament of fifteen 6-in. guns, these ships constitute a most effective reply to the Japanese "Mogami" type in which an attempt was made to carry an equally heavy armament on a displacement of 8500 tons. Relatively well pro-



"WICHITA"

tected by armour on the waterline and decks, the "Brooklyns" were the first ships to have a hangar under the quarter-deck, with accommodation for eight aircraft, though the normal complement is four. The quarter-deck itself is entirely occupied by two catapults and a crane. This arrangement is also a feature of the heavy cruiser "Wichita," mentioned above.

In the two last ships of this class, the "Helena" and "St. Louis," sundry modifications have been introduced, including an improved arrangement of the anti-aircraft armament.

DESTROYERS

About 150 of the "flush deck" type of destroyer of from 1020 to 1190 tons, built in large numbers at the end of the late war, are still in

service. Most of them are armed with four 4-in. guns and twelve torpedo tubes, though two carry six 4-in. and five of them four 5-in. as the main armament. Others of this type have been refitted for duty as minelayers, minesweepers, seaplane tenders and anti-aircraft escort vessels.

In the past five years over 70 destroyers of up-to-date design have been completed and more than 30 more are building. These are of two

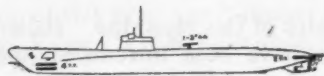


"SIMS"

types, eight of them, with displacements of over 1800 tons and a main armament of eight 5-in. guns, being adapted for use as flotilla leaders. All the others are between 1345 and 1630 tons, and mount five 5-in., with torpedo tubes varying in number from ten to sixteen. Most of them are capable of from 36 to 37 knots, and many have exceeded these figures on trials.

SUBMARINES

With two exceptions—Italy and Russia—the United States are numerically stronger in submarines than any other Power. It is true that 27 of them, of the "O" and "R" types, belong to an obsolete coastal design, while 38 more, of the "S" class, some years ago were officially pronounced not to be a satisfactory type; but there are 35 others which appear in all respects equal to any submarines of corresponding dates built for other navies. Three of these, the "Argonaut," "Narwhal" and "Nautilus," of over 2700 tons, are the biggest underwater vessels in the world with the exception of the French "Surcouf." All three were completed in 1928-30, and are to be re-engined during 1940-41.



"PIKE"

All the 26 submarines completed in the last four years have been of the same general type of from 1310 to 1450 tons, with six or eight tubes and a 3-in. gun. All are fairly fast, with a surface speed of 20 knots

and a submerged maximum of 10 knots. The unlucky "Squalus" (now renamed "Sailfish") belonged to this group, of which there are 18 more building, besides two 700-tonners of a new coastal type.

MISCELLANEOUS CRAFT

Escort and patrol vessels include five so-called gunboats—the "Charleston," "Erie," "Asheville," "Tulsa" and "Sacramento," of from 1140 to 2000 tons. Three of these are armed with 4-in. guns and are 12-knot ships, but the "Charleston" and "Erie" each mount four 6-in. guns and can steam 20 knots.

Left over from the last war are 22 submarine chasers, of which 13 are of the 74-ton "SC" type, while nine are "Eagles" of 430 tons. Recently orders have been placed for 16 modern motor submarine chasers of three differing designs, some of which have already been delivered.

Twenty motor torpedo boats have also been put in hand within the past 18 months, at least four designs being included in these orders.

Minelayers include two 33-year-old ex-merchantmen, converted in 1917, and eight ex-destroyers. A new minelayer of 6000 tons, the "Terror," is under construction.

Aircraft tenders number ten, of which three are converted mercantile hulls of from 5375 to 11,050 tons and the others ex-destroyers. Three seaplane tenders of 8625 tons and six of 1695 tons are building. In addition, nine small minesweepers are employed as aircraft tenders for use with patrol planes.

Including the above-mentioned nine, and nine others assigned for duty as submarine tenders or rescue vessels, there are 41 minesweepers of 840 tons, built in 1918-19. Three more of 650 tons, with Diesel propulsion, are building or completing.

Depot ships and other auxiliaries, such as destroyer tenders, submarine tenders, repair ships, store ships, oilers, transports, etc., number nearly 60, with several more building. Two of these, the "Fulton" and "Sperry," are submarine tenders of 9250 tons with Diesel engines to give a speed of 20 knots.

A valuable reserve of both material and personnel is constituted by the United States Coast Guard, which in time of war operates as part of the navy. Its cruising cutters number 34, vessels of from 450 to over 2000 tons. The seven most modern of these are 20-knot ships with 5-in. guns as their main armament. There are besides at least 50 patrol vessels of between 200 and 350 tons.

Nomenclature of United States warships is now arranged on a definite

system. Battleships are named after states ; cruisers after large cities ; aircraft carriers after historical naval vessels or battles ; destroyers after officers and men of the Navy and Marine Corps, Secretaries of the Navy, Members of Congress or inventors ; submarines after fish ; minesweepers after birds ; gunboats after small cities ; river gunboats after islands ; submarine tenders after pioneers in submarine development ; repair ships after mythological characters ; oilers after rivers ; cargo ships after stars ; destroyer tenders after natural areas of the U.S.A., e.g., "Dixie" and "Prairie" ; large seaplane tenders after sounds ; small seaplane tenders after bays, straits and inlets ; ocean-going tugs after Indian tribes ; and harbour tugs after Indian chiefs and words of the Indian dialect.

Active service personnel of the United States Navy and Marine Corps will number over 187,000 officers and men by 1941, while reserves muster at least 70,000 more.

(See also Navy Notes.)

U.S.A. TYPES OF AIRCRAFT

(This is an abridged version of the article in *The Aeroplane* of 15th March, 1940, on "What America has to offer" and is reproduced by courtesy of that publication. All Rights Reserved.)

INTEREST in American aeroplanes has naturally swung round from the civil to the military field since the War began. Large orders for American-built aeroplanes have already been placed and many American aeroplanes are in service with the Royal Air Force. Notable among them are the Lockheed Hudsons of the R.A.F. Coastal Command and the Curtiss Hawk 75As, both of which are giving fine service . . . there is little doubt that if the War lasts any length of time American aeroplanes will be in service over here in great numbers.

There are five broad categories in which the U.S.A. can aid us. They are :— (i) fighters, (ii) medium bombers, (iii) heavy bombers, (iv) flying-boats, (v) trainers. In all these categories the Americans have some excellent aeroplanes.

FIGHTERS

Eleven types of fighter might be considered in the running for allied orders. Two of these—the Bell Airacuda and the Lockheed P-38—are two-motor fighters, the Lockheed a single-seater, the Bell a bigger and heavier machine with a crew of five and heavy armament. Two more—the Brewster 339 and the Grumman G-36—are designed for operation from aircraft carriers. A noteworthy fact is that the U.S.A. is the first nation to give more or less detailed information of fighters which have speeds of more than 400 m.p.h.

We acknowledge with thanks some detail figures from the excellent U.S. publication *Aviation*.

The Bell Airacuda is a comparatively old design, but is only just coming into service in the U.S. Army Air Corps. Apparently there has been difficulty with the teething troubles of the new Allison liquid-cooled motors upon which so many hopes are pinned.

The feature of the Airacuda is the arrangement of the Allison pushers, mounted in nacelles on top of the wings. A gunner is housed in the front of each nacelle armed with a 37 mm. cannon. The design

is attractive because of the wide field of fire and good visibility. The motors have turbo-superchargers, exhaust driven, for operation at great heights. The top speed is reputed to be in the neighbourhood of 375 m.p.h. at 20,000 ft. The Airacuda is probably not fast enough, nor could it be delivered quickly enough in quantity for allied orders to be contemplated.

The Brewster 339, designated the XF2A-2 by the U.S. Navy, is a single-seat mid-wing ship-plane fighter with a Wright Cyclone motor. The undercarriage retracts rather neatly into the sides of the fuselage behind the motor-cowling. These Brewster fighters have been supplied to the Belgian Army Air Corps and the Finnish Air Force, and a British order for 120 is reported. No performance figures have been released but the top speed is probably around 310 m.p.h.

The Curtiss Hawk 75A (Pratt and Whitney Wasp) is comparatively familiar now that large numbers have been delivered to the *Armée de l'Air*. The American version has two large calibre machine-guns, but the French specify six .303 guns. The Curtiss has gained a great reputation in the French Air Force where it is particularly admired for its lightness on the controls. But it is fast becoming obsolescent because of the arrival of new and faster types.

The Curtiss P-37 and its development, the Curtiss P-40, are examples of these. Both are based on the P-36, the U.S. Army version of the 75A. Both the P-37 and the P-40 have Allison liquid-cooled motors. The top speed of the P-40 is probably around 360 m.p.h. A feature of all these Curtiss aeroplanes is the undercarriage, which retracts backwards and turns at the same time to allow the wheel to lie flat in the wing as in our Miles Master.

The Grumman G-36, called the F4F-3 by the U.S. Navy, is rather similar in appearance to the Brewster 339. It is a single-seat mid-wing fleet fighter with a Pratt and Whitney Twin Wasp and a top speed of 330 m.p.h. The Grumman is the latest aeroplane to be adopted by the U.S. Navy for operation from carriers. Like almost all American fighters its armament is only two machine-guns mounted on top of the fuselage and firing through the airscrew.

The Lockheed P-38, now named the 322-61, is one of the most interesting fighters produced in the U.S.A. The two Allison motors are slung under the wings on each side of the single-seat nacelle in the middle. Each motor nacelle is extended to carry the tail unit. The Lockheed two-motor fighter has a top speed of 404 m.p.h. at 16,000 ft. and a range of 600 miles at 350 m.p.h. Like the other unconventional design, the Bell Airacobra, the Lockheed P-38 has a tricycle landing gear.

The *Republic EP-1* is the export version of the P-35, better known as *Seversky*. With a Pratt and Whitney Twin Wasp the top speed is 320 m.p.h. The wheels do not fully retract but go up backwards and are housed in fairing bulges under the wing. The EP-1 has been delivered to the Royal Swedish Air Force.

The *Vultee Vanguard* is the newest American fighter. It has the new 1600 h.p. Pratt and Whitney Double Wasp motor, which gives it a reputed speed of more than 400 m.p.h. high up. With the 1200 h.p. Twin Wasp the top speed is only 358 m.p.h. at 15,600 ft.

U.S.A. FIGHTERS.

	Bell XFM,1 Airacuda	Bell P-39 Airacobra	Brewster 339 XF2A-2	Curtiss Hawk 75-A	Curtiss P-37	Curtiss P-40	Grumman G-36 FAF-3	Lockheed P-38 322-62	Republic EP-1	Vultee Vanguard
Power Plant ...	2-Allison	1-Allison	1-Cyclone	1-Wasp	1-Allison	1-Allison	1-Twin Wasp	2-Allison	1-Twin Wasp	1-Double Wasp
Total B.H.P. ...	2500	1250	800	900	1050	1250	1050	2500	1100	1600
Seats ...	5	1	1	1	1	1	1	1	1	1
Span (ft. in.) ...	68 0	34 0	35 0	37 4	37 4	37 4	38 0	52 0	36 0	36 0
Wing Area (sq. ft.) ...	500	—	—	236	236	236	260	327	225	197
Empty Weight (lb.) ...	—	—	—	4483	—	—	4715	11,170	4410	—
Loaded Weight (lb.) ...	—	6800*	—	5692	—	—	6398	13,500	5730	—
Max. Speed (m.p.h.) ...	375*	405*	—	317	—	—	330	404	320	—
Height (ft.) ...	16,000	16,000	—	13,100	—	—	15,000	16,000	13,000	—
Initial Climb (ft. in.) ...	—	—	—	2100	—	—	3000	3400	2800	—
Service Ceiling (ft.) ...	—	—	—	33,140	—	—	28,000	28,000	31,000	—
Cruising Speed (m.p.h.) ...	—	325	—	260	—	—	295	350	290	—
Range (miles) ...	—	—	—	677	—	—	1100	600	750	—

* Unconfirmed figures.

BOMBERS

America has concentrated on two general categories of bomber, the big four-motor so-called "Flying Fortress," which could be brought down by one hit from an aircraft cannon, and the newer, faster, and much smaller "Attack Bomber" of which the Douglas DB-7 and Martin 167-W are good examples. Perhaps because of their wide success and experience in the field of air transport the American designers have been more successful in evolving really good medium-size bombers than they have been in any other military category. Armed with British power-operated multi-gun turrets some of the American two-motor bombers could be made into formidable aeroplanes.

The *Boeing B-17B*, also designated the B-299Y, is the biggest bomber in service at present in any country in the World. The Boeing has shown itself to be capable of some fine long-range flights in formation and is well suited to the particular strategic needs of the American Continent. But it would not survive long in a full scale war in Europe. Its defence against attacking fighters is inadequate and it is a magnificent target. The B-17B is modified from the original B-17 in that it is especially equipped for operation at great heights. The cabin is

supercharged and the four Wright Cyclone motors have exhaust driven turbo-superchargers. These aeroplanes are in large-scale production for the U.S. Army Air Corps.

Even bigger than the B-17, the Boeing B-15 was built originally for four of the new 2000 h.p. motors which are only just going into service now. As the aeroplane was ready before the motors it has been flown for a couple of years with engines of low power, but has not been put into production.

Apparently America still has faith in the big bomber because five four-motor bombers equipped with four 2000 h.p. motors each and weighing 70,000 lb. each "without bomb loads" are reliably reported to have been ordered by the U.S. Army Air Corps at a cost of £200,000 each. The constructors are not named but these bombers are probably developed from the Boeing B-15.

The Consolidated Model 32, designated the XP-34, of the U.S. Army Air Corps, is the newest American four-motor bomber and is a type favoured elsewhere, too. It is a high-wing monoplane with tricycle undercarriage. The four 1200 h.p. Pratt and Whitney Twin Wasp motors give it a top speed of around 335 m.p.h. In spite of its comparatively high speed, the size of the new Consolidated bomber, with a wing span of 110 ft., would make it a good target in the air or from the ground. The range is given as approximately 3000 miles and the bomb load about four tons. The XP-34 is in production for the U.S. Army and orders worth \$11,365,000 (£2,840,000) have been placed.

The Douglas B-18A bomber is in service with the U.S. Army and twenty have been delivered to the Royal Canadian Air Force and named the Digby. It is basically a military version of the well-known Douglas DC-3 Transport. The wings are similar, but the fuselage has been redesigned. The B-18A is really in the same category as our Bristol Bombay Bomber Transport, and as such is used for the transport of troops and the carrying of engines and spares generally, as well as for bombing. With two Wright Cyclones the top speed is only about 225 m.p.h., but the Digbys delivered to the R.C.A.F. are believed to be modified and fitted with more powerful motors to improve the performance materially.

The Douglas DB-7 is about the most interesting aeroplane in production in America at present from the allied point of view. It is a two-motor mid-wing monoplane with a tricycle undercarriage. The top speed is approximately 330 m.p.h. with two Pratt and Whitney Twin Wasps. This aeroplane is equipped for dive bombing as well as for precision bombing. The normal crew is three.

The Douglas B-23 is a low-wing two-motor bomber, the newest Douglas product. It is basically similar to the DB-7 except that it has a conventional tail-wheel undercarriage and the motors are placed on top of the wings instead of underslung. Superficially it looks very much like the Martin 167-W built to the same specification. The B-23 has been ordered for the U.S. Army, and with two Pratt and Whitney Twin Hornets or Wright Double-Row Cyclones has a top speed of somewhere near 375 m.p.h. It does not appear to be well armed and would rely on speed for defence, though no doubt power-operated turrets could be fitted as in the Blenheim.

There has been a persistent report during the past year that the Douglas company is building a fast new bomber with a loaded weight of about 150,000 lb. It will be powered with six 2000 h.p. motors. The wing span is quoted as 246 ft. Cruising at 300 m.p.h. at 24,000 ft., the range is given as 7000 miles. There seems little doubt that a very big bomber is being built by Douglas, but the rumoured specification is probably optimistic.

The Lockheed Hudson, developed from the widely used Lockheed Fourteen Civil Transport, is the only American military aeroplane at present in service with the R.A.F. It is doing good work with the Coastal Command. The Hudson is fitted with a power-operated gun turret on arrival in this country and has shown it is capable of dealing faithfully with German flying-boats or seaplanes over the North Sea.

The Martin 167-W two-motor multi-purpose medium bomber is designed for bombing, ground strafing, for reconnaissance and as a multi-seat fighter. As a bomber the Martin 167-W can carry up to 1250 lb. of bombs stowed internally in a variety of arrangements ranging from one 1130 lb. bomb down to eight bombs of 116 lb. each. The top speed is 316 m.p.h. on 100-octane fuel with two Pratt and Whitney Twin Wasp motors and the maximum range 2470 miles at 248 m.p.h. There are gun positions on top of the fuselage and underneath aft of the wing.

The North American NA-40A is another machine in the same category powered with two Wright Cyclones. Like the DB-7 it has a tri-cycle undercarriage, but it is a high instead of a mid-wing monoplane. It is a bigger aeroplane than the DB-7 or the 167-W and is more completely armed with gun positions in the nose, on top of the fuselage, underneath the wings and also a prone position in the extreme tail behind the twin fins and rudders. The top speed is 310 m.p.h. and the range 1728 miles at 256 m.p.h. The prototype was crashed on its tests, but not before it had shown some merit.

The Stearman X-100, the fifth American bomber in this category, is

another two-motor high-wing monoplane, but it has a normal under-carriage instead of a nose wheel arrangement. On muddy advanced landing grounds this might be preferable as a tricycle gear has yet to prove itself under such conditions and might "dig in."

The Stearman is the biggest of the American Attack Bombers, as befits the product of a subsidiary of Boeing's. It has a loaded weight of around 19,500 lb. With Twin Hornets it flies at a speed of slightly more than 300 m.p.h.

This brief survey shows that America has some attractive medium bombers which are reasonably fast. None of them is better than our latest designs but, adequately armed with power-driven turrets, they would be useful supplements to our own production efforts.

U.S.A. BOMBERS.

	Boeing B-299Y B-17B	Con- solidated Model 32 XB-34	Douglas B-18A Digby	Douglas DB-7	Douglas B-23	Glenn Martin 167-W	North American NA-40A	Stearman X-100
Power Plant ...	4-Cyclones	4-Twin Wasp	2-Cyclones	2-Twin Wasp	2-Cyclones	2-Twin Wasp	2-Cyclones	2-Twin Hornets
Total B.H.P. ...	4000	4800	2550	2400	—	2200	2550	2400
Seats ...	9	9	6	3	3	3	67	4
Span (ft. in.) ...	103 9	110 0	95 0	61 4	—	61 4	67 6	—
Wing Area (sq. ft.) ...	—	—	987	—	—	538	610	—
Empty Weight (lb.) ...	26,140	—	—	—	—	10,586	16,000	—
Loaded Weight (lb.) ...	45,470	40,000	—	—	—	15,297	24,000	19,500*
Max. Speed (m.p.h.) ...	268	335*	225*	—	375*	316	310	305*
Height (ft.) ...	14,000	—	—	—	—	14,000	13,500	—
Initial Climb (ft./min.) ...	1400	—	—	—	—	1790	1880	—
Service Ceiling ...	39,300	—	—	—	—	31,500	26,000	—
Cruising Speed (m.p.h.) ...	220	—	—	—	—	248	256	—
Range (miles) ...	2500	3000	—	—	—	2470	1728	—

* Unconfirmed figures.

FLYING-BOATS

Of recent years America has made strenuous efforts to catch up with our flying-boat lead in this country and several outstanding types have been produced. The fact that modern American flying-boats are efficient and reliable is shown by the extraordinary mass-formation flights over the Pacific made by Consolidated PBV boats of the U.S. Navy and by the trouble-free operation across the Atlantic of the Boeing Clippers of Pan American Airways. Incidentally, Boeing owe much to the pioneering work in the design of the Short Empire flying-boats. Flying-boats must take longer to produce than the average landplane and there are fewer concerns building flying-boats than any other type of fixed-wing aeroplane. They have proved their value in this war on long oversea patrols, so there seems to be an excellent reason for giving orders for flying-boats to the U.S.A.

The Consolidated Model 28, the PBV-4 of the U.S. Navy, is probably the best known of all American boat seaplanes. It is a two-motor high-

wing monoplane with retractable wing-tip floats which go up sideways to the wing tips. These retractable floats have an advantage not only in reduced drag but also in helping the take-off, particularly in rough water. There is always a possibility that wing floats may be broken by high seas during the take-off. In the Consolidated boats they can be retracted as soon as enough speed is gained to give lateral control, so that they are out of the way for the latter half of the run.

A Consolidated Model 28 was bought by the Air Ministry last summer and was flown across the Atlantic non-stop from Botwood to Felixstowe, a distance of 2450 miles in $15\frac{1}{2}$ hours. It has been used for some long-range patrols since the War began, for which its great duration has made it specially suitable, and it has met with some startling adventures in Northern waters.

Very large numbers of these flying-boats are in service with the U.S. Navy. They made some notable long-range flights including that by a formation of 14 from San Diego to Coco Sola in the Canal Zone, 3087 miles non-stop in 22 hours 20 mins. carrying 93 men, and another from San Diego to Pearl Harbour, Hawaii, 2550 miles non-stop made in 17 hrs. 17 mins. by 17 boats carrying 119 men.

The maximum duration of 35 hours and range of 4000 miles make these boats particularly suitable for long-range patrol work. An amphibian version with retractable tricycle undercarriage has been built.

The Consolidated PB2Y-2, Model 29, is an altogether bigger boat, a four-motor monoplane of rather greater all-up weight than the Short Sunderland. Like the PBY series it has upwards retracting wing-tip floats. This boat is being built in quantity for the U.S. Navy. The top speed is about 220 m.p.h. and the range more than 4000 miles. A commercial version weighs 65,000 lb. loaded.

The Consolidated Model 31 is about the most efficient aeroplane yet built and the fastest two-motor flying-boat in the world. It has two 2000 h.p. Wright Duplex Cyclone motors which give it a top speed of over 300 m.p.h. at height. It is also the biggest two-motor aeroplane in the world.

The Model 31 has a high wing of very high aspect ratio and of a special low-drag section fitted with Fowler flaps. The hull is remarkably deep and rather short with practically no double curvature, so that production should be easy. The ratio of empty to loaded weight is extraordinarily high, 25,000 lb. to 50,000 lb. The wing-tip floats retract but because the wing is so thin they could not be swung up to the tips so instead they are retracted inwards and rest on the undersurface.

The Model 31 was developed in conjunction with the U.S. Navy and can be used as a long-range patrol boat or as a civil transport. It has a phenomenal range. The future of this particular design remains obscure.

The Glenn Martin 162, the PBM-1 of the U.S. Navy, is another big two-motor high-performance flying-boat, but of less revolutionary design. It has gull wings, rather in the manner of the Short "Knuckleduster" of some years ago. The motors are mounted at the crank points of the wings. The boat has retractable wing-tip floats which will soon be as universal as the retractable undercarriage. The floats are unusually short and deep. They swing inwards and lie flat in recesses in the underside of the wing. Like the Consolidated Model 29 and the Model 31, the Martin boat has twin fins and rudders.

No performance figures have been released but the maximum speed is likely to be around 250 m.p.h.

America is unlikely to be able to supply large numbers of flying-boats to the Allies, but orders for reinforcements for the Coastal Command, particularly for boats of the Consolidated type, would be of advantage to increase still further the scope and completeness of our patrols over the North Sea and the Atlantic.

U.S.A. FLYING-BOATS.

	Consolidated PBV-4 Model 28	Consolidated PB2Y-2	Consolidated Model 31	Glenn Martin 162 PBM-1	Vought-Sikorsky XPBS-1
Power Plant	2-Twin Wasp	4-Twin Wasp	2-Duplex Cyclones	2-Twin Wasp	4-Twin Wasp
Total B.H.P.	3000	4200	4000	2100	4200
Seats	6	9	6	7	10
Span (ft. in.)	104 0	115 0	110 0	—	127 0
Wing Area (sq. ft.) ...	1420	1760	—	—	1670
Empty Weight (lb.) ...	14,240	—	25,000	—	30,200
Loaded Weight (lb.) ...	27,080	65,000	50,000	—	57,500
Max. Speed (m.p.h.) ...	205	226	335*	—	—
Height (ft.)	10,500	7800	—	—	8000
Initial Climb (ft./min.)	1100	—	—	—	600
Service Ceiling (ft.) ...	25,200	690	—	—	17,000
Cruising Speed (m.p.h.)	140	210	—	—	175
Range (miles)	4000	4000	—	—	3800

* Unconfirmed figures.



U.S.A. TYPES OF AIRCRAFT
FIGHTERS

(Reproduced by courtesy of "The Aeroplane.")

1. BREWSTER 339 ; 2. CURTISS P-40 ; 3. GRUMMAN G-36 ; 4. CURTISS HAWK 75 A ;
5. LOCKHEED P-38 ; 6. VULTEE VANGUARD.



7



8



9



10

11



U.S.A. TYPES OF AIRCRAFT
BOMBERS AND FLYING BOATS

(Reproduced by courtesy of "The Aeroplane.")

7. CONSOLIDATED XP-34; 8. DOUGLAS DB-7; 9. BOEING B-17B; 10. CONSOLIDATED PB2Y-2; 11. CONSOLIDATED MODEL 31.

WAR AND THE BUSINESS MAN

By MAJOR H. J. COOPER, R.A.S.C. (ret.)

THROUGHOUT the ages warfare and business have been inextricable. Xenophon could never have passed through the country of the Carduchi if he had been a modern General Staff Officer. Julius Cæsar is alleged to have gone to Spain with debts of what to-day would be two millions sterling and to have returned with a fortune of about an equal amount. Without indulging in some sort of business, it is difficult to see how this could have been achieved. It may be argued that resort was had to compulsory acquisition of some kind ; perhaps it was. Nevertheless, business acumen of no mean order must have been either exercised or controlled by Cæsar in order to convert loot to Roman currency. The Elizabethan sailors who achieved world-wide renown were not far removed from privateers : they stole and then, doubtless, sold in the best market : they engaged in affairs in which occasional payments were made with life itself, but the rewards were enormous. Marlborough and Wellington were compelled to immerse themselves in trade. Had they not had training other than that which was purely military, it is doubtful if the successes which they achieved would have attended their arms. When in 1701 Marlborough was appointed by his Sovereign to command the British contingent in Flanders, he was able to put into practice the administrative principles he had learned in Council, diplomacy and war. For the traditional unpreparedness of Britain for war was reflected in the poorly equipped recruits sent as reinforcements to his Army. He enjoyed, however, the advantages of fighting in a well-populated and well-found land : by the wide powers of his commission,¹ he was able to control to an unusual degree the supply of stores and clothing for his forces and to enter into advantageous contracts for supplies in the theatre of war.² All of this called for his personal supervision and the exercise of talents now ascribed to the business man and said rarely to be found among soldiers *de carrière*.

Wellington was often compelled to pay more attention to the maintenance of his forces than to preparation for battle. His greater

¹ Dalton, " Commission Register," Vol. V, p. 15.

² Fortescue, " History of Supply and Transport," p. 19.

difficulties were not those of policy involving the Government, or of strategy involving his allies but of Supply,¹ which were omnipresent and involved everyone. His despatches, recorded conversations and correspondence contain almost daily reference to the privations of his force, the difficulty of procuring food and of obtaining transport and of the impossibility of ensuring an adequate supply of money for the prosecution of the campaign. Since it was not possible to send food in large quantities from England to the theatre of war, the supply of food rested entirely on the supply of money,² and the greatest difficulty of Supply which Wellington experienced concerned the Treasury. For this office, remembering that the old system of doing everything by contract was the only recognized procedure, made endless difficulty in providing Wellington with specie. Whereas by one contract with Sir Solomon Medina and with the assistance of one Antonio Alvarez Machado, Marlborough was able to provide bread and bread waggons³ for nine or ten campaigns, Wellington was forced to adopt methods of his own in order to provide himself with money⁴ and then compelled to defend his character from defamation by both the Treasury and the Board of Trade. The parsimony of the Government had forced Wellington to speculate in grain in order to provide cash for the purchase of bread. He had to write an A B C of Supply for his commissaries and it was only by sending his Commissary General to London that he was able to convince the Treasury of his plight. So much was he in arrears that when he started for Salamanca in 1812 pay was more than three months in arrear and £200,000 was owed for meat alone. Money is always the best persuasive for supplies and specie is its most potent form. Undoubtedly there were many difficulties in the way of procuring sufficient Portuguese and Spanish coin to pay for all the requirements of the Army and even to ensure an adequate supply of paper money, yet the Government did not at any time make adequate provision. Villiers held as a favourite notion that by exertion a good deal more money might be got in the theatre of war,⁵ as though by inducing an excessive commotion money would rise to the surface. "I am concerned to be obliged to draw your Lordships' attention again to the want of money with this army"⁶—these words were in substance included in his despatches each month that Wellington spent in the Peninsula.

¹ Not used in the narrow sense of food and forage, but as the power to procure and deliver all the requirements for both men and animals.

² Gurwood, "Wellington's Despatches," Vol. III, p. 313.

³ Fortescue, "History of Supply and Transport," p. 19.

⁴ *Ibid.*, p. 102.

⁵ Gurwood, "Despatches," Vol. IV, p. 251.

⁶ *Ibid.*, Vol. VII, p. 150.

There was a steady decline of this administrative capacity among soldiers during the XIXth and on into the XXth Century. The muddle of the Crimea which, excluding Walchaeren, was our worst military administrative failure; the difficulties of South Africa; the disasters of Mesopotamia; the German failure in 1918. All exemplify it.

DEFINITION OF A BUSINESS MAN

Before endeavouring to outline the part which should be played by the business man in war, it is first of all necessary to define what a business man is. There are many aphorisms which give a partial definition; a man who makes money; who builds up and conducts commercial enterprise; who organizes labour to extract comfort from the virgin resources of the earth. Perhaps the best definition is—the man who engages in commerce. Commerce being an art of peace, it is reasonable to suppose that its practice will be unconnected with war; and so it was for many centuries until trading itself was compelled to provide the sinews for warding attack from its enterprises. Yet as peace is the object of war and is not a series of short interludes in a continuous struggle, training for its arts should be a less specialized education than would training for war. The whole of human endeavour provides the material for a study of human progress. It is because material progress without attendant discipline results in mental and moral deterioration and that some nations find the maintenance of this discipline an easier matter than others, that there is no uniform mental, moral or material standard. And each nation prefers its own; when that standard is threatened, it will fight. For no nation will submit what it conceives to be its vital interests to arbitration. Therefore, when the commercial community sees its raw materials, manufacturing centres or markets threatened, then it will clamour and rightly so, for their defence. It is for this reason that nationalism to-day is such a potent force: it has for its basis commerce—the sphere of action of the business man.

We are, in spite of what we may think, a nation of artisans, middlemen and shopkeepers. We have lived and expanded and hope to continue to live and expand on the margin which separates the operations of buying and selling. Our ideas, our organisations and our activities have not yet this simple fact as their foundation. When wars of purely dynastic ambition gave way to jockeyings and struggles for commercial advantages in order that the full benefits of the Industrial Revolution might be enjoyed, the complicated processes of Government did not march abreast. For instance, within living memory, reception by the Sovereign Heads of States was to some extent governed

by the circumstances of the aspirant ; men who were not completely independent of their fortunes and who were obliged to look to their own exertions for the maintenance and provision of their families were formerly but sparsely received at their Courts. Nor was it only about the person of the Sovereign that such were rarely found. The reasons for this attitude were deep rooted and of long standing. They played their part and had subscribed to the swelling greatness of Britain. But the present time is far removed from the days of Henry II, when every noble down to the junior viscount was a cousin of the King. Feudalism has given place to a system of government where ultimate authority lies with the whole adult population. It is now no longer knight service or scutage upon which the Sovereign depends for his Army, but upon the money which is the product of the integration of the exertions of the business man.

It will be convenient first to examine the administration of large forces engaged in modern war and then to see how far the training of soldiers and of business men may seem to have fitted them to embark upon the solution of the problems which it presents. As an army is trained, so it will fight during the earlier stages of a campaign when its doctrines will be thoroughly understood by both officers and men. Later it will be reinforced by contingents composed of men whose training has not been exclusively military ; their lives will have been spent in the arts and professions and in business. These latter as the fighting forces grow will become increasingly predominant. As a nation lives so it will tend to fight during the later stages of a campaign when the regular soldiers are outnumbered by those whose service is temporary. Not that the most dangerous of all strategists—the brilliant amateur—will conduct operations but that the technical complexities of military existence will tend to dilute military administrative methods. For it will be easier to use civilian ways and means than to force the nation upon the Procrustean bed of a rigid military organization.

A system suited to the peace needs of a widely dispersed force of a few hundred thousand is not necessarily best fitted to administer a million or two men concentrated in a few comparatively small areas. It follows therefore that it will be unusual for business men to be consulted, except occasionally upon purely technical questions, in peace or during the initial stages of a campaign. But as the whole of the national activities are slowly drawn within the military orbit then will more and more business men become directly and indirectly concerned with military affairs. Many will join the fighting services, others engage in quasi-military activities : all will endeavour to perform their duties in

the light of their own attainments. It is now that differences arise and military incompetence and civilian omniscience are canvassed up and down the country: the progress of the campaign tends to widen the fissure. The soldier confronted by what is thought to be unreasonable criticism from men, who, whatever their accomplishments, are still infant soldiers, is apt to adopt attack as the best means of defence. The extreme views are represented by the Field Marshal who said aeroplanes were useless since the curvature of the earth would effectually mask their vision, and by the choleric merchant serving in a yeomanry regiment who threatened to join the Royal Artillery on seeing a Taube sail unscathed through a curtain of anti-aircraft fire, "What are they but rocketing pheasants!" he said.

Every fact in war before acceptance has to bear the test of two enquiries; is it militarily desirable? and is it administratively possible? It must be said at once that the man of business or the man of affairs cannot, if he has had no previous military experience, hope to direct¹ military operations, as it is certain that no soldier trained almost exclusively upon a purely military curriculum may legitimately aspire to the Woolsack or to a mitre.

ADMINISTRATIVE CAPACITY OF BUSINESS MEN

The occasions when a man whose training and experience had been principally commercial could properly adjudicate upon the desirability of any individual military operation will undoubtedly be limited; but the occasions when such a man may offer sound—perhaps the soundest—advice as to the possibility of ensuring the administrative accomplishment of any particular enterprise will be many. A wise commander will take every advantage of this class of experience which may often be close to his hand, for there will be many temporarily serving officers who will have greater experience in the handling of large quantities of supplies and the reception, inspection, storage and issue of stores, than any regular officer. It is to these business men that the Army will properly look for assistance in solving the manifold problems presented by adapting a rigid peace-time military routine to supplying, equipping and maintaining numbers of expeditionary forces over half the world. There will no doubt be irritation and scuffling. The essential simplicity of military principles are not at once clearly seen by civilians who are apt to confuse them with the oftentimes vexatious methods of their application. Those officers who having retired from the Army join commercial and industrial firms find immediately that

¹ This is not to imply that training other than that which has been purely military is an effectual bar to employment on the General Staff.

the peace-time military methods of check and counter check cannot obtain in the world of business. The business man immediately relieves the incompetent and makes the fraudulent stand his trial. Those who control the departments of Governments do not use these "direct action" methods. The essential difference may be that a general manager is responsible for efficiency to a board of directors; but a Minister is responsible for the efficiency of his department to the House of Commons. Also there is the wealth of principle summed up in the dictum that "after all the object of the Public Officials Protection Act is to protect the public official." There is no such screen behind which a mediocre foreman, manager or managing director can retire. It is therefore easily understood that men of business find the circumlocution employed to prevent the removal of officers not up to their work quite incomprehensible. It may of course be urged that there are drones in high places in business as there are in departments of state. The fierce glare of public concern, however, never falls upon business enterprise as it does upon the fighting Services and their administrations. The tact necessary in handling the not often erudite representatives of vested interests in commerce may often stand the temporarily commissioned officer in good stead. A promoted Corps Commander once told a staff officer that he could not, regrettably, take this officer with him as nature had not endowed him with the qualities vital to the handling of blockheads in high places. There is a considerable range between the Commander-in-Chief and the humblest temporarily commissioned officer; and within its compass there is room for both professionals and amateurs to exercise their talents in harmony.

THE ROYAL SQUADRON, 1939

By "WALRUS"

PART I. PORTSMOUTH TO QUEBEC

MUCH has happened since the Royal Squadron escorted Their Majesties to Canada in the spring of 1939, and the ships which took part in the pageantry of that great peace-time occasion are now engaged on the grim duties of war.

Yet an account of the events of those happier days is not untimely. To begin with, no full and accurate record of the naval side of the Royal Tour, with all the attendant ceremonies and precedents, has yet appeared, and we owe it to future historians to preserve the details of such things in the JOURNAL. But what is of far more importance at this crisis of our national existence is to recall the personal part played by Their Majesties in cementing those ties with Canada which are reflected in the whole-hearted support we are now receiving from all the Dominions and British possessions overseas. Lastly, it is as well that we should realize that we owe the present sympathetic attitude of the United States in great measure to the happy impression left by Their visit to that country.

MAKING READY

In September of 1938, the five ships of the Second Cruiser Squadron, under the command of Rear-Admiral G. F. B. Edward-Collins, C.B., C.V.O., flying his flag in the "Southampton," were at Scapa Flow. We were expecting war to break out at any moment, but by October the Prime Minister had, at Munich, given Great Britain another year to prepare for the present struggle, and we were back, first at Invergordon and then at Rosyth, for the Home Fleet's normal autumn cruise. There we saw the first official announcement of Their Majesties' impending visit to Canada and learnt that the escort was to be provided by two, as yet unnamed, ships of the Second Cruiser Squadron. It was not until the beginning of March that we knew that the "Southampton" and "Glasgow" had been selected.

The battle cruiser "Repulse," in which Their Majesties were to

make the voyage across the Atlantic, had been in hand for some months for a refit in Portsmouth dockyard, and the opportunity had been taken to prepare the Captain's quarters for the King and Queen and to build additional cabins for their suite. Just as she sailed for Gibraltar for a month's shakedown cruise, the "Southampton" and "Glasgow" returned to their home ports to give Easter leave. During this period there were many preparations to be made: charts of American waters to be obtained; new dressing lines to be made; preparations for rigging the ship effectively for any large-scale entertainments which we might be called upon to give; and last, but far from least, much enamelling, painting and polishing to be done.

On 29th April the "Southampton" left Chatham and proceeded to Spithead. We went up harbour and berthed at Pitch House Jetty in Portsmouth dockyard where, not far away, lay the "Glasgow." Ahead of us was the "Repulse"; but her officers and men had just suffered a keen disappointment: in view of the critical situation in Europe (Hitler had just seized Czechoslovakia, and there were many who predicted that the Royal Tour would have to be cancelled), the Government had announced that the battle cruiser could not be spared from home waters, and that, in consequence, the Royal voyage would be made in the Canadian Pacific steamship "Empress of Australia" under the command of Captain A. R. Meikle, R.D., R.N.R. This unavoidable last minute decision left less than a week to make the rearrangements necessitated by the change from the original plan. There was no time to commission the liner with a naval crew, as had been done with the P. & O. "Medina" on the occasion of the visit of Their Majesties King George V and Queen Mary to India for the Durbar in 1911. The ship was therefore chartered on the same basis as a transport with her own officers and crew. Some naval personnel were essential, but they did not exceed forty all told. In addition to Vice-Admiral Sir Dudley North, K.C.V.O., C.B., Commanding H.M. Yachts, his Secretary and Flag Lieutenant, the Royal suite included a naval equerry and two naval medical officers. There was a small detachment of Royal Marines to provide orderlies and sentries, seaman boys to act as messengers, and a small staff of signal and wireless ratings. The necessary naval equipment and codes were provided for visual signalling between the liner and the escorting cruisers, together with two small portable wireless sets; the latter were normally intended as a second line of intercommunication, but would be the principal means if fog were encountered. Communication with the outside world was to be maintained both by commercial routes using the liner's ordinary wireless equipment and operators, and by naval channels through the two cruisers.

The days spent at Portsmouth were naturally busy. There were daily conferences between the Vice-Admiral and other officers from the Royal Yacht, the Rear-Admiral commanding the escorting cruisers, the Captain and officers of the "Empress of Australia," and officials of the C.P.R. Line. It was, for example, made clear that Captain Meikle would remain entirely responsible for his ship and her safe navigation. The escort, as far as navigation and safety were concerned, were to act as a separate unit, although they would normally keep station on the liner. The Vice-Admiral Commanding H.M. Yachts would at all times be in a position to advise the commander of the liner in addition to conveying His Majesty's commands both to liner and escort. He would also issue all requisite orders for the general proceedings of the Squadron and for any necessary ceremonial. Various cruising dispositions were issued in readiness for an order by signal. In all cases the "Empress of Australia" would act as "guide of the fleet," thus avoiding station-keeping difficulties.

During these last days it was decided that the "Repulse" was to accompany the liner for a part of the Atlantic voyage—an honour which did something to compensate for their disappointment, and on Thursday, 4th May, she left harbour and anchored at Spithead. On the afternoon of the next day the "Empress of Australia" in all the brilliance of her white hull and yellow funnels came round from Southampton and berthed alongside the South Railway Jetty. By now there remained but twenty-four hours for the final preparations for the voyage.

THE DEPARTURE

Early in the forenoon of Saturday, 6th May, the "Southampton" and "Glasgow" joined the "Repulse" at Spithead. At noon the three ships dressed with masthead flags, whilst all other ships in harbour dressed overall. At the same moment Their Majesties left Buckingham Palace and drove to Waterloo Station through the crowds which had assembled to give them a warm and affectionate farewell. At Portsmouth Town Station they left the train accompanied by the two Princesses and walked across the square to the Guildhall where they received an address of welcome from the Lord Mayor and the keys of the City from the Garrison Commander. They then drove through streets lined by detachments of the fighting Services and cheering crowds to the South Railway Jetty.

At 2.45 p.m., in excellent weather, Their Majesties embarked in the "Empress of Australia." The Royal Standard was broken at the main and a Royal salute of twenty-one guns fired by the ships in harbour. In addition to the Standard, the flag of the Lord High Admiral (also

known as the Admiralty's flag) was broken at the fore, the blue was replaced by the white ensign at the stern, and the Company's jack hoisted at the jack staff. This arrangement of flags created an interesting precedent: King's Regulations and Admiralty Instructions state that, when His Majesty embarks in a warship, the Standard is to be hoisted at the main, the Admiralty flag at the fore, and the Union flag—being the flag of an Admiral of the Fleet—at the mizen¹; in addition to the white ensign, the Union flag would normally be flown as a jack. The "Empress of Australia" was not a warship, but she flew the white ensign by His Majesty's command; it seemed that the Union flag was not flown because the liner had only two masts with no yards, gaff or other practicable position at which to fly it. The Company's own jack was flown as a tribute to the special service they were rendering.

After Their Majesties had said farewell to members of their family, who then disembarked, the "Empress of Australia," assisted by dockyard tugs, slipped from the jetty and, in the wake of the Trinity House yacht "Patricia," which carried the Elder Brethren, proceeded out of harbour past thousands of cheering sightseers on Southsea beach. By this time the Royal Escort was under way at Spithead and, after the military battery had fired, greeted their Sovereigns with a Royal salute. As the liner passed the Outer Spit buoy, with an escort of R.A.F. machines circling overhead, the four ships formed in line ahead four cables apart in the order "Southampton," "Glasgow," "Empress of Australia," and "Repulse." At the Nab the Squadron stopped while the pilot and the Royal Marine band from Eastney disembarked into a waiting tug. We then set course down Channel at twelve knots.

At four o'clock the Home Fleet was sighted approaching from ahead on an opposite course and formed in two long columns: cruisers and destroyers to starboard, heavy ships to port. First they fired a Royal salute; then, as the Royal Squadron reached the head of the Fleet, they altered course 180 degrees together so that all were proceeding westward. Then, increasing to the liner's maximum speed of eighteen knots, we slowly passed between the columns, each vessel in turn cheering ship. Finally the Home Fleet fired a further salute and altered course together, outwards and away. Thus in fair weather and a calm sea with this final farewell from the Fleet was the Royal voyage to Canada begun.

¹ Ships with less than three masts hoist their flags in the three most conspicuous positions available; thus in the case of the "Repulse," which had only one mast effective for this purpose, the Standard was to have been hoisted at the masthead, and the Admiralty and Union flags at the starboard and port yard arms respectively.

THE VOYAGE

At dusk the "Empress of Australia" moved to the head of the Squadron, and throughout the night the "Southampton," "Glasgow" and "Repulse" followed in line ahead. In the middle watch we stopped ten miles South of the Eddystone and transferred despatches and mails to the flotilla leader "Codrington" for passage to Plymouth. At daylight the cruisers were stationed four cables on each quarter of the liner, whilst the "Repulse" followed eight cables astern. During the day we held our course to the South of Ireland passing numerous ships, chief among which was the French liner "Normandie" eastward bound. All sent greetings and good wishes to Their Majesties by wireless and received gracious replies. Those that passed close enough blew prolonged blasts on their sirens. It was in that way that a large fleet of fishing trawlers, through which we passed during the dog watches, conveyed their greetings; in return the "Empress of Australia" hoisted the international code signal, "Thank you!"

On Monday, 8th May, we encountered patches of fog. It was insufficient to delay the Squadron's westward progress at eighteen knots, but it hampered the exercises which had been arranged for the escort, and these had to be restricted to Officer-of-the-Watch manœuvres in the evening. By noon on Tuesday, 9th, the fog had been cleared by a gale which suddenly sprang up from the South-West. Within a very short time it was blowing with hurricane force and the seas were sufficient to make the two cruisers roll nearly 40 degrees each way. Washing down forward and aft, the "Repulse" ploughed through it, whilst the liner appeared fairly comfortable. For a short period speed was reduced to thirteen knots to avoid damage to the ships. In spite of this, the port sea boats of both the cruisers were stove in, and they had to heave to and secure gear. One sea smashed in the square ports of the "Southampton's" wardroom and reduced the interior to a shambles of broken woodwork and salt water.

During the afternoon the "Repulse" was ordered to return to England. Before parting company she steamed up abreast the liner and cheered ship. She then altered course 360 degrees outwards and came in astern again. A cask containing the Royal Mail was dropped from the liner and safely recovered by the battle cruiser, a feat of seamanship praised by the signal: "Repulse—from His Majesty the King. Well done!" Soon afterwards she was out of sight astern bound for Plymouth.

The weather moderated during the night, and by the morning of Wednesday 10th, we had increased our speed to seventeen knots. During the day the two cruisers were at last able to carry out exercises

including high-angle-firing at smoke bursts and a night encounter after dark. We were now clear of shipping and steamed both by day and night in single line ahead in the order "Empress of Australia," "Southampton" and "Glasgow."

FOG AND ICE

At 6.0 a.m. on Thursday, 11th, we ran into a dense fog, and, having reached the edge of the ice area, we stopped engines. The sea was now very calm, there was no wind, the temperature was down to freezing point, and everything was cold and clammy. In these unpleasant conditions the three ships, out of sight of each other but maintaining touch with the monotonous regular blasts on their sirens, lay stopped. It appeared the wisest thing to do, for the wireless reports from the International Ice Patrol Service indicated that there were many large bergs in the vicinity and we had twenty-four hours in hand for the passage to Quebec. Occasionally for short periods the fog would lift sufficiently to enable the ships to see each other. We would then steam ahead for a few miles until the fog enveloped us once more.

That night similar intermittent progress was made. The "Southampton" was stationed ahead of the liner in order that she might sweep with her searchlights and thus, perhaps, locate any berg which lay in our path; but this proved of little value in the prevailing visibility, because the searchlights merely produced a blinding glare on the wall of fog ahead, and it was not repeated.

Throughout Friday, 12th May, the same conditions prevailed. Since it was the anniversary of Coronation Day, the two cruisers dressed ship with masthead ensigns, and at noon fired a Royal salute and despatched by signal loyal greetings to Their Majesties. In reply His Majesty ordered the escort to "splice the main brace." During the dog watches the fog suddenly lifted and the sun shone brilliantly on a calm blue sea. The wisdom of remaining stopped during the last thirty-six hours was at once apparent, for all around us the sea was literally dotted with icebergs and growlers. To our disappointment none of the bergs were very large, but course was altered to pass close to the largest so that Their Majesties could take photographs: a large berg, partly covered with snow in all its glory of dazzling whiteness, and in part sufficiently transparent to reflect all the blues and greens of sea and sky, is a beautiful and wonderful sight.

For a brief period we had hopes of arriving at Quebec in time, but these were suddenly dashed when, within an hour, fog enveloped us, and once again the Squadron stopped. That night for more than ten hours we did not go ahead once, and by six on the morning of Saturday, 13th,

our total progress in forty-eight hours was just under a hundred miles : we had, in fact, averaged two knots ! In desperation we endeavoured to crawl ahead at five knots, but the " Empress of Australia " sighted a berg through the fog all too close for safety and, after we had all had to stop and go astern, the attempt to proceed was abandoned.

Since all these delays ultimately resulted in Their Majesties reaching Canada forty-eight hours late on schedule, thus to a certain extent dislocating the arrangements for the Royal Tour, it has frequently been asked whether we would not have been wiser to have chosen another route ; a more southerly one has usually been suggested. It is therefore worth recording that the route used was selected by the commander of the liner and officials of the C.P.R. Line with the concurrence of all the naval authorities concerned, because there could be no doubt that those responsible for maintaining a fast passenger and cargo service year after year through these waters were the most likely to know the best route. To show that no reflection can be cast on the wisdom of what proved to be an unlucky choice, it may be mentioned that a ship which sailed from England a day earlier and took a route which passed through the ice area some two hundred miles further South was held up by fog and ice to such an extent that she reached Quebec a day after us. Another ship passed through the ice area a hundred miles North of us without delay, not because it was clear of ice, but because she did not have the misfortune to encounter fog as well.

By 6 a.m. on Sunday morning our total progress during three days and three nights amounted to 150 miles, and our average speed throughout the period was still two knots. The visibility early in the forenoon was a little better, and we saw that we were now entirely surrounded by sludge ice. This consists of pieces of ice each about three or four yards in diameter, one to three feet in height above water, and therefore three to eight feet in depth below, sufficiently dense to make it dangerous to proceed at any speed other than slow for fear of damage to hull or propellers. Thus, when shortly after ten o'clock the fog suddenly cleared, our progress was still painfully slow. Our wirelessed reports to the Admiralty had been brief and monotonous. The following is an example : " Squadron stopped in dense fog. Impossible to proceed further until weather clears owing to number of icebergs and growlers sighted in clear periods."

But at last the fog cleared, and by noon visibility was maximum all round. For a time, too, we cleared the ice field and increased to eighteen knots, though during the afternoon the Squadron had again to force its way through densely packed ice at slow speed. In the distance we sighted several very large bergs, but neither the

prevailing conditions nor the time available allowed us to close them. Just before tea, in fine calm weather, we suddenly cleared the ice altogether, and almost at the same time obtained soundings as we crossed the edge of the Great Bank of Newfoundland. At long last we set course for the Gulf of St. Lawrence at eighteen knots, once again sighting shipping as we passed a number of French three-masted vessels at anchor, each with six or more dories away fishing in the vicinity.

On Monday, 15th May, the weather was fine and the sea calm, but it was still very cold. To the North we could see the barren snow-covered hills of Newfoundland all day, the only sign of life being the lighthouse at Cape Race. During the forenoon we catapulted an aircraft to make a reconnaissance ahead of the Squadron. This reported the extent of the ice field in the Cabot Strait, and thus enabled us to steer a course clear of it.

THE ST. LAWRENCE RIVER

At 6.30 in the evening we reached a pre-arranged rendezvous and there sighted the Canadian destroyers "Skeena" and "Saguenay" approaching from ahead. They passed down the starboard side of the "Empress of Australia" and cheered ship. They then joined the escort which now formed up with a destroyer on each bow of the liner and a cruiser on each quarter. The "Skeena" was carrying a Canadian broadcasting official, and it was interesting to listen to his commentary to both Canada and the United States. His enthusiasm was our first direct indication of the excitement and interest which prevailed throughout North America at the impending visit of Their Majesties. He described the liner, not unfittingly, as looking like a wonderful white palace, and referred to the cruisers as marvellous examples of modern efficiency dwarfing their own destroyers. It was kind of him not to have contrasted the external appearance of the British and Canadian vessels: the two destroyers were as smart as any man-of-war could be, whereas beautiful as we may have been when we left Portsmouth, fog, ice and salt water during the last ten days had played havoc with our paint and enamel. His Majesty signalled to the destroyers: "It is a great pleasure to be in Canadian waters and to be greeted by my Canadian Navy. I thank you for the welcome you have given me, and congratulate you on the fine appearance of your ships."

By daylight on Tuesday, 16th May, we were in the St. Lawrence. We dressed with masthead flags and, throughout the day, with one destroyer on each bow and one cruiser on each quarter, proceeded up the ever-narrowing waters of this mighty river. During the forenoon

it was too wide to see both banks, but we steamed fairly close to the southern shore watching with interest the continuous panorama of low hills and distant mountains. Heavy forests were interrupted at almost regular intervals by villages in each of which, however small, the predominating feature was always a large church—an obvious indication of the Roman Catholic religion predominating in this part of the Dominion.

At 8 a.m. Rear-Admiral Edward-Collins hoisted his flag as a Vice-Admiral, having been promoted that day. In accordance with the regulations the "Southampton" fired a salute of twenty-one guns to the Senior Officer present, who in this perhaps unique case was His Majesty the King.

Early in the afternoon the Squadron stopped off Father Point and the three big ships embarked pilots. The tug bringing these out also brought off a small deputation from the village to read a brief address of welcome to Their Majesties whom we could see through glasses leaning over the liner's rail. We then proceeded on up the river, passing many steamers large and small, the majority of which were dressed overall in honour of the occasion. By the evening the river had narrowed to about five miles in width, and in the gathering dusk the darkened hills and the many islands in the river were illuminated with the twinkling lights of many bonfires, a chain of these having been lit in welcome to Their Majesties. After dinner we passed on through the narrow dredged channel known as the North Traverse and, just before midnight, the whole Squadron anchored off Orleans Island some ten miles below Quebec. Vice-Admiral Edward-Collins, Captain F. W. H. Jeans ("Southampton") and Captain C. G. B. Coltart ("Glasgow") were then received by Their Majesties on board the "Empress of Australia."

The Vice-Admiral commanding H.M. Yachts signalled that the Squadron would weigh at eight o'clock next morning. To our great regret we were two days late on schedule, but the greetings Their Majesties had already received in the St. Lawrence, and the head lamps of the hundreds of cars lining the road in the trees of Orleans Island on our starboard hand, even at this late hour, were sufficient indication that the welcome to be expected on the morrow would be something remarkable.

(Part II of this account will be published in the next issue of the JOURNAL.)

THE HEALTH OF THE SOLDIER IN WAR

By MAJOR FREDERIC EVANS, M.B.E., R.A.M.C.

EVEN a cursory study of military history shows that, in the great majority of campaigns, there have been more casualties from the effects of disease than from enemy action. Indeed, in some campaigns the disproportion has been very striking. For example, in the Crimean War the casualties of the French Army, per thousand of the troops engaged, were in the proportion of 114 deaths from disease to 30 in action or from wounds. The British proportions were 89 and 17 per thousand respectively. Typhus fever in particular has decimated armies. Out of 28,000 Bavarian allies of the French in the campaign of 1812-13, only 2,500 were left alive; the others had died of typhus. During the Peninsular War, in the British Army, three times as many men became casualties from sickness than from wounds, and twice as many as the total strength of the Army were treated for disease during the campaign. In the Crimea, in 1856, the French lost 17,000 men from typhus, while half the Russian Army in Turkey, in 1879, became casualties for the same reason. In Serbia, in 1915, and in North Russia, in 1918-19, typhus took heavy toll of the inhabitants. Conveyed by the body louse from the typhus patient to the healthy subject, the disease, unless preventive measures are used, can become a deadly and devastating one to men, as on a campaign, in close contact with each other. Typhus is the old jail fever of early days. Lind, a naval surgeon, writing in 1757, said, "the disease is the most fatal and general cause of sickness in the Royal Navy . . . the mortality from it has been greater than by all the diseases and means of death put together."

Lieutenant-General Sir W. MacArthur, the present Director-General of Medical Services, has written :

"From the time that typhus is identifiable from the symptomatic descriptions, we find it an invariable accompaniment of naval and military operations, provided that these were sufficiently prolonged."

These records show the importance of methods for the disinfection of soldiers from lice and their eggs and the maintenance of personal standards of body cleanliness everywhere. Social improvements have now made the conditions favourable to the appearance of typhus rare in Western Europe, and so the reservoirs of infection have mostly

dried up—but eternal vigilance is still necessary in case new foci of infection appear.

Another group of diseases which have decimated armies are those of the excremental type. These comprise diseases like typhoid and paratyphoid fevers, dysentery, cholera and diarrhoea. They are caused by human food and drink becoming contaminated by the excreta of patients or carriers of the diseases in question. The South African War of 1899-1902 illustrates very strikingly the danger to armies from excremental diseases. In a force of almost 210,000 men, nearly 60,000 cases of typhoid fever occurred, of which about 8,000 were fatal. This infection of over 25 per cent. of the Army was due to inefficient field sanitation and lack of the proper control of water supplies. By the Great War of 1914-18, the lesson had been learned. Field sanitation and a radical method of providing sterilized water for the troops, coupled with the inoculation of all personnel against typhoid and paratyphoid fevers, resulted in an incidence during these years of approximately 30,000 cases of typhoid among *six million* men—that is, only 0.5 per cent.—with about 800 deaths.

Diseases like malaria, conveyed by the anopheline mosquito, yellow fever carried by a culicine mosquito, and sand-fly fever caused by a type of sand-fly, may afflict armies, particularly in sub-tropical and tropical countries. Appropriate preventive measures to destroy such insect vectors of these diseases, to neutralize their breeding and to prevent infected insects reaching healthy people are essential to the success of campaigns in and the occupation of such countries. That this can be done with skilled and energetic action is illustrated by the Mesopotamian campaign. In 1915 and 1916, the admissions to hospital of malaria cases per thousand of the troops employed was 152 and 102 respectively. After the commission of enquiry was held and its recommendations put into effect, the incidence fell to only 52. The same improvement occurred, as a result of this enquiry, in other directions also. Dysentery fell from 110 and 92 (1915 and 1916) to 39 (1917) and 30 (1918) in the number of admissions to hospital per thousand men.

Typhoid fever fell from eighteen in 1916 to five in 1917 and three in 1918, per thousand, while food deficiency diseases fell from 102 admissions to hospital in 1916 to nine in 1917, and three in 1918 per thousand men. Cholera fell from twelve per thousand in 1916 to about one per thousand in 1917 and 1918. These statistics show what can be done if the matter of military hygiene is taken seriously and intelligent action follows from all who are concerned with the well-being of the troops when once the dangers have been realized and the methods of combating them clearly understood. If the statistics of all British

wars are summarized for the last thirty years or so, we find, approximately, that for every man killed by the enemy, five died from disease, and for every ten admitted to hospital because of wounds and injuries, forty were admitted because of sickness. It is seldom that these disproportions between the effects of enemy action and of disease are appreciated by the people most concerned.

THE IMPORTANCE OF MILITARY HYGIENE

From the point of view of effectives, sickness and death from diseases are, to say the least, no less serious than the reductions in man power caused by the shot and shell of the enemy. A high sick rate among the troops, especially of epidemic diseases, causes a heavy strain upon the medical organization in the field, uses up hospital accommodation and personnel which should be available to succour those wounded in action, and may have an ill effect upon the morale of an army and its will to win. In the modern "total" type of war energetic preventive measures become vastly more important than they were even in the days of small mobile armies because the call for reinforcements and reserves is much greater and the packing close together of large bodies of troops adds very considerably to the opportunities for widespread infection. Mechanization has made warfare more complex, and the loss of men who may have taken a long time to train is obviously a very serious matter. It is literally true to say that in the nations at arms, other things and the fortunes of war being roughly equivalent, those who maintain the fittest and healthiest troops are bound to achieve victory in the long run. Not only is there a competition in military operations, but also in military health. Never was this hard fact truer than it is to-day.

Enough has, perhaps, been said to make clear the fundamental importance of maintaining the best possible standards of health in the Army, and for that reason military hygiene must rank high in the medical service, especially upon a campaign. The lessons of the Crimea focused attention upon the need for the treatment of the sick and wounded and gave rise to an organized medical and nursing service in all armies. The Boer War, with its staggering proportion of casualties from typhoid fever, stirred the authorities to action in the study and organization of preventive medicine in the field. Various theatres of war had their special problems and dangers to health and our field hygiene, while eminently successful in many directions, was not always, at any rate at first, equal to certain special and perhaps unforeseen demands. For example, in the Macedonian campaign of the Great War the occupation of malaria-infested districts without adequate

preventive measures being prepared, caused over 160,000 cases to be sent to hospital because of malarial fever, this resulting in the proportion of admissions to hospital in this theatre of war being one for wounds compared with just over twenty-seven for sickness. In the East Africa campaign, intestinal diseases prevalent in those parts were mainly responsible for a proportion of one to thirty-three.

It may be well to describe generally the underlying principles of hygiene in the field. These will perhaps be best understood in relation to the main groups of diseases usually met with in campaigning armies. Diseases of the intestinal or excremental type are spread by the infected excreta of carriers or incipient and mild cases of diseases like typhoid, dysentery and cholera contaminating the drinking water supply or the food of the troops. This may be through gross lack of personal cleanliness or by the employment of carriers in the preparation of food or the contamination of water supplies by carriers. With modern personal checks this latter condition would now be rare. The most potent danger is, however, the habit of the common house-fly in feeding now on human excreta, then on human food. In South Africa flies bred in their millions in the manure heaps of the cavalry, artillery and unit transport lines and in the latrines. From the open insanitary latrines they swarmed into messes and contaminated the men's food. Careless sanitation often meant camp water supplies being directly contaminated by infected excreta and the absence of efficient methods of water sterilization completed the cycle of the infection of the armies by typhoid fever, with the results we know. Thus field sanitation, to meet this particular danger, consists simply of the construction and maintenance of latrines which cannot foul the water supply, are not accessible to flies—that is, are fly-proof; the prevention of flies reaching the food supplies through the use of protective storing; the neutralization of any attempts of flies to breed in fresh horse manure, human excreta and other refuse; and the wholesale destruction of the adult fly. This composite plan implies sound methods in conservancy in the field, these being maintained through careful training of selected personnel, through the instruction of all ranks in field sanitation and in strict observance of sanitary standing orders, through disciplinary action as a last resort.

MEASURES OF DISINFESTATION

The next group of military diseases—if one may use the term—are those conveyed by animal or rather insect vectors or carriers. What these diseases are will largely depend upon the geographical region in which the troops may be operating. In Russia, for instance, typhus may be carried by body lice from typhus cases to healthy men. Trench

fever and relapsing fever were so carried from man to man in the trenches on the Western Front during the Great War since, under such conditions, their bodies and clothing were almost invariably lousy after a spell in the line. If in these conditions an active source of typhus fever had appeared, its spread, without prompt and energetic preventive action, would have been certain, and we might have seen decimations by typhus such as visited armies in the campaigns of the past. Preventive methods in this sub-group of insect-borne diseases—i.e., typhus, trench fever and relapsing fever—consist of the maintenance of a high standard of personal cleanliness in each soldier, both as an individual, and also as a member of his group. Centralized baths, where apparatus for the disinfestation of clothing and the cleansing of the body from lice, where clean underclothing can be obtained in exchange for dirty and where a general medical inspection of the men is arranged, are provided in the field. These may be in specially constructed buildings designed to have "Infested" and "Disinfested" entrances and exits, in adapted steam trains, in barges following a river force, or obtained by the adaptation of existing municipal baths or of installations like miners' pit-head baths. In this war we have gone one better, and a complete bath unit, comprising strong portable tents, spray bath boilers and hot air disinfestors for uniforms and blankets, has been established, this being exceedingly mobile. The installation has been designed to deal with large bodies of troops in a short time. Steam disinfecting cylinders, also, have and can still be used for the same work of disinfestation. Since the shortest cycle of life from egg to an adult egg-laying louse is about sixteen days, the bathing and disinfestation of the troops at least once every fortnight is the aim.

THE MOSQUITO MENACE

Malaria and yellow fever constitute another big problem in the Near East, Africa, India, and in other Mediterranean, sub-tropical and tropical regions, where there is stagnant or slow-moving water in which the malaria-carrying anopheline and the culicine yellow fever mosquito can breed. The appropriate sanitary measures consist generally of the prevention of the breeding of these mosquitoes in and around the areas occupied by the troops and the housing and clothing of the troops in such a manner as to prevent these insects biting them, especially at night. Swamps are drained, stagnant or slow-moving streams are canalized or made to run swiftly between clean-cut banks, odd places where water, even in small quantities, can lie, are eliminated and the surfaces of ponds and streams covered at regular intervals by either a film of mineral oil or by a lethal mixture of Paris Green powder (a form of arsenic) and of stone dust. This treatment of the water surfaces is

intended to kill the larvæ of the mosquito which develop from the eggs laid thereon, while the thin film does not materially affect the use of the water for other purposes. Gauze protected barracks, tents, beds, etc., guard the individual from the adult female anopheles mosquito—possibly fresh from sucking the blood of a malaria case—and there is also specially designed anti-mosquito clothing for use by the troops in certain conditions. Similar precautions are used against yellow fever. Sand-flies abound in dry hot countries where broken stone and rubble is common, and they may produce a very trying but not highly deadly sand-fly fever. Here again the breeding places in old walls and in rubble are attacked and cleared, gauze netting is used, and direct attack made by spraying mixtures upon the adult sand-flies. This is true also of anti-mosquito measures.

Fleas which infest the black rat in certain countries and where cases of the disease occur may become through their bites the vehicle for the propagation of the deadly bubonic plague. Thus all measures of personal cleanliness, for the destruction of rats, and for the prevention of their breeding, become matters of great importance in campaigns, especially when fought in areas where this disease is endemic. Other animal vectors of disease that may be mentioned are ticks in the African undergrowth which may carry typhus and the tsetse fly, vehicle of the dreaded sleeping sickness.

Then there are the diseases spread by droplets of mucus, infected perhaps with the germs of smallpox, scarlet fever, tuberculosis of the lungs, influenza, diphtheria and similar diseases which first attack through the respiratory system. Preventive measures call for adequate systems of ventilation and spacing and for early hospital treatment and the checking of contacts. The floor space normally allowed by the regulations for each soldier in a Home Station is 60 square feet, this with 10 feet head room, giving 600 cubic feet per man. The maintenance of this standard is important if epidemics of diseases of the droplet type are to be avoided. In this connection, especially, is the disinfection of premises, clothing and utensils, of particular importance and apparatus for the use of steam and of chemical disinfectants, whichever is appropriate, with trained personnel to operate it, is available in all areas of the Home Commands as well as in the field.

PURE WATER SUPPLY

Water supplies are in a key position in field sanitation. But in the modern Army this has received much expert attention. Trained personnel operate motor tank vehicles and trailers wherein water can first be clarified through modern filters and then made sterile by chemical

means. Chemical tests of the water are made to determine the amounts of chloride of lime to be used in the sterilization and the tanks are designed in relation to the needs of the units which they serve. These methods are employed not only to make harmless the germs of disease which may be found in the water, but also certain dangerous parasites which, especially in hot countries, may infest the water. One example is the schistosome, a species of worm which spends part of its life cycle in man and part in fresh water snails. When ingested by man it may cause schistosomiasis or "bilharzia" disease, as it is sometimes known. Thus even in a country with the foulest water, a water supply for drinking—which is clear and safe—can be made available to the Army operating there.

There are other less obvious but necessary activities which comprise field sanitation such as the preventive measures necessary against such contact diseases as scabies, "dhobie itch," and the venereal diseases. Then there are the measures to be taken to reduce or obviate casualties which may result primarily from climatic conditions, such as frost-bite or trench foot in cold countries, heat stroke and heat exhaustion in hot countries. Food deficiency diseases, such as scurvy, caused by the lack of fresh vegetables, etc., and beri-beri, caused by the eating of rice from which the husk and germ have been removed, have to be guarded against in a well-balanced diet, and the Army ration has to be adequate in calorific values for energy, in the essential vitamins and in body-building properties. For instance, in the North Russian Expeditionary Force during the winter of 1918-19, to provide the anti-scorbutic vitamin C in the diet, dried peas, beans and other pulses were moistened and germinated and cooked and eaten immediately afterwards. In this way, scurvy, which nearly destroyed the whole of the Turkish Army in the Crimea, was completely avoided among the troops, though the civil population suffered a great deal. To-day, vitamin C has been isolated and can be administered in tablet form. These anti-scorbutic tablets are available for issue to troops in areas where scurvy might be expected. The education of every soldier in the care of his own health, the hygiene of his person, whether in action, on the march or at rest, is part of field hygiene, and this is being increasingly carried out as a section of his training. All the precautions and preventive measures taken for the bodies of troops as a whole have also their counterpart in the need for personal hygiene along the same lines in the individual soldier.

THE ARMY HYGIENE ORGANIZATION

All this work means a well-planned organization and there has now become established in the Army Medical Service a Hygiene side with

the duties of ensuring what is, virtually, the public health of the Army in peace and war. At the War Office there is a Director of Hygiene, with an Assistant Director of Hygiene. The War Office is also advised by the Army Hygiene Advisory Committee with the Director of Hygiene as its President. Under the Directorate of Hygiene in this country come the Army School of Hygiene, the Hygiene Department of the Royal Army Medical College, Assistant Directors of Hygiene in the Commands with their Deputy Assistant Directors of Hygiene in the Districts and Areas. Certain matters in respect of recruiting are the concern of the Hygiene Directorate, since the medical aspects of this work require special knowledge and training. Assistant Directors of Hygiene and Deputy Assistant Directors of Hygiene are the technical advisers on this subject in all commands and districts. Similarly a hygiene specialist, graded as a Deputy Assistant Director of Hygiene, is on the staff of the Army School of Physical Training and, in addition to being in medical charge, it is his duty to supervise, from the medical point of view, the work of the school, to provide instruction in such subjects as anatomy and physiology and to carry out research appropriate to his appointment.

In the field, the Army organization implies a Deputy Director of Hygiene at General Headquarters, where there is also a Mobile Hygiene Laboratory, a Deputy Assistant Director of Hygiene with each Corps, with Field Hygiene Sections in charge of a Medical Officer, who is a specialist in Hygiene, attached to each Corps and Division. Both the Base Sub-Area and the Line of Communication Sub-Area have each their Deputy Assistant Director of Hygiene and Field Hygiene Section. This latter unit was known as the Sanitary Section in the Great War, and though small in numbers (not more than thirty), these sections of picked men, often of professional type, did extremely successful work in the field of preventive medicine. The Field Hygiene Sections—many of them Territorials—will no doubt give the same good account of themselves in this war. The Hygiene side works as part of and in close collaboration with the general organization of the Army Medical Service. The Assistant Director of Medical Services, who is the chief administrative medical officer for a Division, is advised on all matters affecting the hygiene and sanitation of the Division by the Officer commanding the Divisional Field Hygiene Section. Field Hygiene Sections serving with Corps and on the Lines of Communication work under the Deputy Assistant Director of Hygiene of the area concerned.

THE DUTY OF THE REGIMENTAL OFFICER

Every regimental medical officer is also the hygiene adviser to his unit, and he has to report to his Commanding Officer on the sanitation

of his unit and has to ensure the proper training of the unit sanitary personnel. Yet, in the ultimate, the responsibility for the preservation of the health of the troops rests upon commanding officers of units, and through them upon subordinate commanders and indeed on every man in the unit. *Field Service Regulations*¹ state that "the commander of every formation and unit in field will be responsible for the sanitary condition of the area occupied, and for the enforcement of all orders regarding health and sanitation." This permits of no misunderstanding, but it will be seen that the responsible officer can call upon a skilled and enthusiastic hygiene service for advice and for assistance in the training of personnel in field sanitation. However, it may be said that not always has the importance of military hygiene been realized by regimental officers nor their official responsibility in the matter. Perhaps what has been written in this memorandum will help its readers, in their minds, to place military preventive medicine in a position of equal importance with the actual job of fighting. For no fighting can take place if the armies engaged are swept by the diseases which have proved such deadly enemies to them during the long history of warfare.

¹ Volume I, 1930. Section 145.

SMALL CRAFT IN SEA WARFARE

By FRANK C. BOWEN

THE splendid work of the small craft which helped to evacuate Dunkerque and the other Channel Ports recalls the fact that in the past the Navy has repeatedly required vessels of very light tonnage to supplement the fleet of larger units.

No doubt the *picta* of the *Classis Britannica* had some dashing actions to their credit, but up to the Tudor period there are few actual records of the doings of the smaller ships; indeed, even those of the bigger ones were mostly identified with the knights who commanded the soldiers on board. By the time of Henry VIII, however, the pinnace which had apparently begun as a long open boat had been developed into a seaworthy sailing vessel with half deck and forecastle, and could be used for scouting or the carrying of despatches.

Queen Elizabeth's fleet which sailed against the Spanish Armada included a number of ships of less than 100 tons, most of which were hired merchant vessels. It was the 50-ton pinnace "Golden Hind" which brought news of the enemy having been sighted off the Lizard, and the Lord High Admiral sent the pinnace "Disdain" to "give the Duke of Medina Sidonia defiance" before the main fleets engaged: a sufficient answer to the criticism which greeted the revival of that name in the "D" class of destroyers. During the series of actions which followed there were numerous cases of the handy and weatherly English pinnaces tackling much larger Spaniards, and in the pursuit several were employed running back to the coast to arrange for victualling, ammunition supply and the like. When the Armada was huddled together on the French coast it was the fireships which completed its discomfiture; these again were small merchantmen which were hurriedly filled with tar and other inflammable substances.

Three years later, when Howard and Grenville were in the Azores waiting to intercept the Spanish treasure fleet, they had some pinnaces with them, but it was the pinnace "Moonshine," belonging to Lord Cumberland's separate expedition, which warned Howard of the approach of the main Spanish fleet, enabling him to get the majority of

his ships away in safety, although Grenville failed to weather the Spaniards in his "Revenge" and tackled their whole fleet. In 1595-6 Drake and Hawkins in their attack on Puerto Rico manned all the pinnaces and boats of their squadron, which forced their way past the blockship obstructing the mouth of the harbour and set fire to five Spanish ships inside. The English privateering fleets of that period were generally small vessels of 100 tons or less, and they, too, included a number of pinnaces which assisted in the useful part they played against the Spaniards. When the East India Company had obtained its footing in India it made great use of small craft, generally of native design, both for policing against pirates and meeting the aggression of the Dutch and Portuguese.

Small craft were also employed in the operations against the Algerine pirates in the first part of the XVIIth Century. The absence of any British fleet in the Mediterranean in the early days encouraged the pirates who worked well up into Northern waters, and the powerful fleet sent out under Mansell in 1620, which included some small vessels, achieved nothing, although individual ships, mostly small, which convoyed merchantmen put up a gallant fight on more than one occasion. The ten "Lion's Whelps" built by contract in 1627—185-ton ship-rigged vessels mounting twelve guns each—might have been put to very good use in these operations had they been better designed, but they were failures from the first—sluggish and unserviceable.

In the Civil War records of work done by small craft are meagre, although they probably took a prominent part in the confused operations. It was Prince Rupert's two "frigates"—the 14-gun "Roebuck" and the 30-gun "Guinea"—which permitted him to start his romantic cruise from Dutch waters by going out and capturing a couple of prizes whose sale enabled the squadron to be fitted out. Cromwell's and Charles II's operations against the Algerines also included a number of small craft.

It was the Second Dutch War of 1665-7 which brought the smaller types into their own and revived their record under the Tudors. Fire-ships were extensively used, and bomb ketches, yachts, and other minor types distinguished themselves on many occasions, both on the outskirts of the fleet actions and in convoying and other work. Perhaps the best known case is that of Captain Charles Hayward in the 14-gun yacht "Merlin," which in 1665 was convoying a fleet of victualling vessels to Tangier when, off Cadiz, they were attacked by five Dutch men-of-war ranging from the 44-gun "Karel" downwards. The "Merlin" gallantly faced the whole squadron and kept it busy for four hours while most of the convoy got safely away; when the "Karel" tried to

break off the engagement and carry out the major operation of destroying the merchantmen, the little "Merlin" immediately tackled her again and fought her for another hour, not striking her flag until only eight of her men remained unwounded.

It was at the end of the XVIIth Century that the bomb ketches began to capture the public fancy on account of the tremendous damage of which they were supposed to be capable, just as the fireships had done before them and as other types down to the submarine and motor torpedo boat were to do later. In the attack on Dunkerque in 1694, two bomb vessels with fireships and small craft were given the special task of annoying the enemy, but they did little damage of importance, nor were they any more successful against St. Malo, Granville and Calais. On the other hand, the smaller types of regular men-of-war, of various rigs, were beginning to receive more attention in regular naval warfare and were being built in increasing numbers. Their handling was studied more carefully, and they gave the young officer excellent chances of distinction, as well as the best possible training for subsequent command.

This tendency was rapidly increased during the long succession of wars against France, Spain and the United States, which continued until 1815 with little intermission. The smaller types were still hired from the Merchant Service in large numbers, for permanent service as well as for expenditure as fireships, but the Navy's own fleet was rapidly expanded. Unfortunately the command of a small ship could be a convenient hiding-place for a naval failure as well as a stepping-stone to greater achievement, so that some of them were run in the poorest fashion and with the greatest brutality, which had its inevitable sequel when it came to action. On the other hand, the majority won high honours and many a victory at long odds. The greater distances covered by warlike operations, the improvement in the scientific handling of ships, and the more numerous units at sea gave the smaller types great opportunity of distinction. The War of American Independence, by its nature, was conspicuous in this, although the distinction very frequently went to the other side who were able to teach our people a lot about the handling of the smaller man-of-war, which they took very much further than the French or Spaniards had done. On the Great Lakes, on the American coast and far out into the Atlantic, the little craft were kept busy, and privateers under both the French and the American flags added to their tasks. The blockade of the American coast and attacks on various seaports also fell very largely to the smaller vessels.

It was in the Mediterranean, however, that the little 14-gun

"Speedy," which had already gained a great reputation under Captain J. Brenton, reached the high water mark of enterprise for a vessel of her size when, under Lord Cochrane, she attacked Spanish commerce to an extent which became almost legendary. In thirteen months she captured, sank or burned over fifty vessels, and earned herself such a reputation that the Spaniards specially despatched well-armed ships from various ports to capture her. One of these was the 32-gun Xebec frigate "Gamo," which very nearly deceived Cochrane by disguising herself as a merchant ship and likely prize. Luckily her real nature was discovered before her people identified the "Speedy"; the latter pretended to be a Danish brig homeward bound and begged the Spaniards' assistance in dealing with an outbreak of smallpox, which caused the "Gamo" to sheer off immediately. The crew of the "Speedy" were so flushed with success that they became almost mutinous because the fight had been avoided, so Cochrane promised them another opportunity which was not long in coming. In spite of the ludicrous disparity in the size of his ship, Cochrane, by running very heavy risks and resorting to tricks which thoroughly appealed to the public, carried his big adversary by boarding, killing and wounding more of her men than he had in his whole crew. Unfortunately, continued successes turned Cochrane's head, and a quarrel with the First Lord of the Admiralty went a long way towards ruining his career.

The exploits of the "Speedy" were only some of many during this war, and there was much other useful, if less exciting, work which fell to the lot of the small craft, such as convoying merchantmen. Scouting ahead of the fleet was apt to be neglected, not so much because its necessity was not appreciated as because there were never enough vessels available. In the constant blockades the small craft found plenty to do, not only working inshore but keeping touch with other forces, despatch running, victualling, and a score of other duties which relieved monotony and often gave opportunities for professional distinction. Even the fireship came into her own again in the hands of Cochrane, to whose temperament she was exactly fitted. The big French fleet sheltering in the Basque and Aix Roads in 1809 was regarded by Napoleon as being invincible; he had previously written: "Nothing could be more insane than the idea of attacking a French squadron at Isle D'Aix. I am annoyed to see you with such notions." Cochrane thought otherwise, and was appointed to the command of the "Venture" over the heads of his seniors but unfortunately under Lord Gambier. Fire-ships were prepared at home from old merchantmen and some empty transports were also sacrificed. Three explosion vessels were also prepared, and Cochrane himself went in with one of them; she carried 1500 barrels of powder tamped well down with hawsers, wet sand and

anything else which was handy, and on top of these were 350 fused shells and thousands of hand grenades. So far as their definite function of burning and blowing up enemy ships was concerned, both fireships and explosion vessels failed—generally on account of bad handling and premature action—but they did all that was necessary in throwing the French fleet into hopeless confusion, causing them to cut their cables as the ships of the Spanish Armada had done, to fall foul of one another and to take the ground. All except two were soon ashore, and had Gambier been as keen as his subordinate the destruction of the fleet would have been complete.

After the peace the small vessels still had the opportunity to distinguish themselves against piracy, slave trading and gun running. From Lieutenant Maynard's gallant action in the tiny sloop "Ranger" against the infamous pirate Blackbeard, whose head he brought home at his bowsprit end, to operations against gun running in the Persian Gulf, right down to the outbreak of the late war, the Navy was constantly at work, and the greater part of both work and credit went to the little ships and the men who handled them. The various Chinese wars and the operations against Chinese pirates in particular offered the small craft every opportunity, and they made the most of it. In the actual operations undertaken during the Crimean War the smaller vessels were generally attached to the big ships, although they occasionally found their opportunity, but towards the end of that war a number of shallow draught vessels were employed and, had the campaign continued, a host of gunboats hastily built in England would have taken a major part under junior officers.

The late war with Germany was very largely a war of small craft for every kind of work, so that it is perhaps invidious to pick out single instances of their use, but when, in October, 1914, Rear-Admiral Hood was sent a hurriedly organized flotilla of small craft to support the left flank of the Belgian Army and to check German progress towards Ostend, the vessels were so miscellaneous in character that they are of special interest. Never was seen such a mixed fleet: the enemy was derisive, but it did its work magnificently. Alongside obsolete battleships, river monitors taken over from Brazil, cruisers and destroyers, were sloops dating well back into the previous century, and, most curious of all, the flat-iron gunboats for which there had been a craze in the 'seventies. Later in the war came opportunities for all sorts of small craft for minesweeping, convoying, attacking submarines, river operations in Mesopotamia and Northern Russia, and a thousand other jobs.

During the late war, and in this one up to date, small craft have

often had to shoulder the brunt of the active service, although their work would have been impossible without the backing of heavier metal. As from time immemorial, the Service has been able to look to the Merchant Navy for reinforcements to its minor flotillas. Coasters, packets, trawlers, drifters, tugs, paddle excursion steamers, yachts of every description, even hoppers from the dredging service, have played their parts and played them well.

THE VIOLATION OF NEUTRAL WATERS IN THE PAST

By COMMANDER W. B. ROWBOTHAM, R.N.

THE violation of neutral waters is no new thing, and has often been perpetrated by various belligerents in the past for one reason or another. Generally speaking, neutral waters extend for a distance of three miles out from the coast line, though in more than one instance other countries have, at various times, announced their intention to increase this distance to twelve miles. These attempts to extend territorial jurisdiction have, however, never received the general approval of International Law. The distance of three miles was apparently agreed upon because this was about the maximum range, or random shot, of the coast artillery of the XVIIIth century, and it was presumed that a ship could not be protected outside that distance.

An historic instance of the violation of the territorial waters of non-belligerents occurred during the last days of July, 1588, when, having been pursued and harassed by the English fleet all the way up the English Channel, the "Invincible Armada" of Philip II of Spain took refuge in Calais Roads. The primary object of the Duke of Medina-Sidonia had been to effect a junction with the Duke of Alva, the Spanish General in the Low Countries, after which their joint forces were to invade England. Even with the fresh supplies of ammunition which the English had managed to obtain from the various towns on the South coast, at the end of six days hard fighting Lord Howard of Effingham found that the magazines of most of his ships were practically empty, and as it was imperative to disperse the Spanish fleet without delay, recourse was had to a fireship attack into French territorial waters. This took place on the night of 28th/29th July, and was a complete success from the point of view of forcing the Spaniards to cut and run to leeward through Dover Strait towards the low-lying coast of Zeeland. In the general confusion one of the largest of the Spanish galleasses—the "San Lorenzo," was run ashore in the Roads, where she was attacked and destroyed by the boats of the "Ark Royal" and other ships under the command of Amyas Preston. The French, who had no great love for the Spaniards at this period, do not appear to have made

any official protest against this violation of their neutrality, and the Governor of Calais openly expressed his delight at the success of the English.

In 1639, Sir John Penington with a strong squadron was lying in the Downs when the Spanish fleet under Admiral Oquendo, which was making for Dunkerque (then in the Spanish Netherlands), was driven in by the Dutch fleet under the command of the elder Tromp—Marten Harpertszoon of that ilk. Sir John requested the belligerent Admirals to respect the neutrality of the English roadstead, but Tromp, on being reinforced by other ships from Holland, attacked the Spanish fleet, drove many of the ships ashore and captured or sank the remainder.

We now skip a hundred years and arrive at the War of the Austrian Succession. In June, 1742, five Spanish galleys had anchored in the French port of St. Tropez, where they were blockaded by the "Kingston," 60 (Captain Richard Norris), in company with the "Oxford," 50, and the "Duke" fireship. At this period of the war France had not yet declared against us—she did not come in until 29th March, 1744—and in ordinary course of events the British squadron would merely have maintained a close watch over the port in order to prevent the escape of the galleys. But for some reason the Spaniards were rash enough to open fire on the blockading force, and this proved to be their undoing. On 13th June, Captain Norris ordered Commander Smith Callis of the "Duke"—the normal composition of most detached squadrons at this period included one or more fireships—to go in and effect the destruction of the galleys which were lying alongside the mole. The attack took place on the 14th and was a complete success, all five of the enemy being destroyed. The "Duke," of course, was expended on this service and, owing to the rapidity with which Callis had primed his ship and carried out his orders, none of the ship's nor the officers' papers were able to be saved. For his gallantry on this occasion Commander Callis was "made post" into the "Assistance."

During the Seven Years War Admiral the Hon. Edward Boscawen, who was refitting his fleet at Gibraltar, sighted a strong French squadron under *Commodore de La Clue Sabran* passing to the westward through The Gut. The British ships put to sea with commendable despatch, and by ten o'clock the same night were making all sail in chase. The French were overtaken on the afternoon of the following day—17th August, 1759—when a spirited action ensued as the British ships came up. The "Namur," Boscawen's flagship, was so crippled aloft that the Admiral was obliged to shift his flag to the "Newark"; the boat in which he was being conveyed was hit by a shot, but with great promptitude he plugged the hole with his wig—an early example of the

internal use of a thrummed collision mat. By the next morning several of the enemy had been captured, and de La Clue, with four ships of the line, was seen to be close inshore off Lagos, where he hoped to be secure in Portuguese neutral waters from further attack. Portugal, however, was too weak to be able to enforce respect for her neutrality and the British, holding to the principle of "hot chase," followed in. The "Océan," 80 (de La Clue's flagship) and the "Redoubtable," 74, were run ashore, where they were burnt; the "Téméraire," 74, and the "Modeste," 64, were captured and brought out. This violation of Portuguese neutrality caused a strongly-worded protest to be forwarded from Lisbon, but Pitt, the British Prime Minister, on the protest being laid before him, is said to have retorted, "But they burn!"

The history of our maritime operations in the Mediterranean probably contains many instances of violation of neutral waters, although it is on record that we have not always disregarded the rights of neutrals. For example, when the "Monmouth" (Captain Arthur Gardiner) so gallantly engaged and captured the "Foudroyant"—a French ship of much larger size and armament, on that night of 28th February, 1758, and at the same time the "Revenge" (Captain John Storr) captured the "Orphée," two other British ships of the same chasing squadron—the "Montague" (Captain Joshua Rowley) and the "Monarch" (Captain John Montagu)—pursued the "Oriflamme" into Spanish waters. The enemy "anchored in a little bay which we take to be that called by Mitchelot P. Del Cope" and, "had it not been for the necessity for observing Spanish neutrality, they must have been totally destroyed."

Thirty-six years after the above episode had occurred we were again at war with France, and this time it was the neutrality of one of the outlying islands belonging to the Ottoman Empire that was violated. On 17th June, 1794, the "Romney" frigate (Captain the Hon. William Paget), with a convoy of one British and seven Dutch merchantmen, bound from Naples to Smyrna, was passing the island of Mykoni, when she saw at anchor and well within the statutory three-mile limit the French frigate "Sibylle" (Commodore Jacques-Melanie Rondeau) and three merchantmen. As his own convoy was in no danger, Captain Paget decided to attack the Frenchmen. Anchoring a cable's length away, he sent a message inviting the surrender of the French warship. This, of course, was refused, and after the usual preliminary broadside by either side a hot action began. In less than two hours the enemy's colours were hauled down and the "Sibylle" became a prize to the "Romney"; the three merchantmen were also taken possession of at the same time.

Consequent on the recent "Altmark" incident the German Press, with its customary distortion of historical facts, likened this exploit to the unspecified bombardment by the British of Copenhagen. There were two occasions when we attacked the Danish fleet at Copenhagen, and what really happened on the first occasion was as follows. The attack on and destruction of the Danish fleet by Lord Nelson at Copenhagen on 2nd April, 1801, to which the German propaganda possibly refers, may be termed a border-line case of violation of neutrality. Although there was never any formal declaration of war, the Armed Neutrality of the Northern Powers—Denmark, Russia and Sweden—had been revived a few months previously over the old and vexed question of the right of search. It was quite patent that these three Powers were intending to attack Great Britain as soon as the Baltic and the adjacent waters were free from ice, and therefore that age-old principle of strategy which prescribes an attack on the nearest enemy before his allies can come to his assistance was once again brought into use. The Sound is clear of ice appreciably earlier in the year than are the Gulfs of Bothnia and of Finland, and so the obvious course to pursue was to crush the Danish fleet, which consisted mainly of fully-armed hulks as opposed to rigged ships, before it could be reinforced. The decisive action which ensued had the desired result, and the Armed Neutrality was dissolved a couple of months later without further hostilities occurring. Copenhagen itself was not bombarded, the operation being confined to the capture or destruction of the Danish fleet. It had, however, been considered that the possibility of a bombardment and the necessity for landing a military force should be provided for, and the British expedition, which was commanded by Admiral Sir Hyde Parker, comprised, in addition, seven bomb vessels (with their usual detachments of the ubiquitous Royal Regiment of Artillery) and a force of troops—the whole of the 49th Foot (1st Bn. The Royal Berkshire Regiment) and one company of Manningham's Corps of Riflemen (The Rifle Brigade). The infantry, which were embarked as a military landing force and not as Marines, were never required to act in their intended capacity, though they came in for a full and honourable share of the fighting which took place.

Six years later, the peace following the Treaty of Amiens proving merely a short breathing space prior to the protracted struggle with Napoleon, that disturber of the peace of Europe was on the point of overrunning a weak Denmark or of forcing that country to join in with him. The Danish fleet, although the ships were rather old and not particularly seaworthy, was still a desirable acquisition from his point of view, and so the British Government decided to take possession of it; not so much on account of the value of the ships themselves, but in

order to prevent it from falling into the hands of the French. Rather a "dog in the manger" attitude, but nevertheless one that was necessary. In consequence, Admiral Sir James Gambier was ordered to proceed to Copenhagen and demand the surrender of the Danish fleet. This time Copenhagen was bombarded—on 2nd September, 1807—but the Danish seamen, for the most part, refused to fight, and every ship was captured and taken possession of five days later with practically no sea fighting at all. The prizes were brought to England, but for the reasons mentioned above hardly any of them were ever used in a sea-going capacity, and they were relegated to such uses as prison ships and other purely harbour service employment. Actual war with Denmark was formally declared on 4th November, 1807.

The next two instances to be recorded are not, strictly speaking, violation of neutral waters, but rather of breaches of neutrality on the high seas against ships of a country that was, from all reliable political intelligence, on the brink of declaring war against Great Britain. In 1804, Spain was still undecided as to whether she should join forces with France, to which end Napoleon was exerting all the pressure he could. On 5th October, four Spanish treasure ships—the "*Medea*," 40 (Rear-Admiral Don Y. Bustamente) and the 34-gun frigates "*Fama*," "*Clara*" and "*Mercedes*," whose cargoes he hoped would eventually go to swell his war chest, when approaching Cadiz were captured by a squadron of four British frigates under Captain Graham Moore of the "*Indefatigable*." The other three British ships were the "*Medusa*" (Captain John Gore), the "*Amphion*" (Captain Samuel Sutton), and the "*Lively*" (Captain Graham Eden Hamond). Actually, three were captured and a fourth—the "*Mercedes*," blew up with all on board at the beginning of the action. On 19th November of the same year, the "*Donegal*" (Captain Sir Richard Strachan) captured the Spanish "*Anffritre*" when off Cape Spartel. Spain, therefore, came into the war against us on 11th January, 1805.

In all these instances which have been quoted the enemy were in a position to return the fire and to defend themselves, but during the last war the Germans attacked a stranded and defenceless British submarine in Danish neutral waters. On 18th August, 1915, "*E.13*" (Lieutenant-Commander Geoffrey Layton) took the ground on the S.E. edge of Saltholm flat, between Malmo and Copenhagen. Every endeavour to refloat her proved unavailing, and in due course her plight was discovered by the Germans. The submarine, which had no gun but only her torpedoes, was incapable of offering any resistance, and when the enemy torpedo boats opened fire the British crew were fallen in on deck as a sign that they were unable to reply. This went on for some time,

and fifteen of "E.13's" crew were killed before the sound of the firing brought up a Danish torpedo boat. Signals to cease firing had no effect, so the Danish commander steamed across the line of fire and thereby put a stop to any further aggression. The survivors were interned in Denmark, but Lieutenant-Commander Layton managed to escape shortly afterwards and made his way back to England.

In conclusion, it may be remarked that in the present conflict the Germans have made no pretence of adhering to the precepts governing the use of neutral waters which they have violated whenever it has suited their purpose, whether to attack defenceless neutrals or to escape from just retribution.

THE INTERNATIONAL SITUATION

THE BRITISH EMPIRE AGAINST GERMANY AND ITALY

THE events which have occurred since the publication of last quarter's JOURNAL have been indeed momentous: Italy has joined Germany against us; Norway has been completely evacuated; Holland and Belgium have been overrun by the enemy; France has capitulated. Nominal leaders of our late Allies in the field—refugees from their own countries—continue to give us their moral support, and General de Gaulle heads a commission in London pledged to rally all Frenchmen who wish to go on fighting. But from a military, as distinct from a diplomatic, point of view the issue has now clarified itself into a straight fight between the British Empire on one side and Germany and Italy on the other.

THE STRATEGICAL OUTLOOK

At first sight it would seem that Germany has secured an immense strategical advantage by occupying the coast of Europe from the North Cape to the Franco-Spanish frontier; moreover, Italy and her forces in Africa threaten our main sea route to the Far East. In German eyes, no doubt, Great Britain seems like a beleaguered island threatened on two sides from a vast encircling mainland, while the other Axis Ally is confidently expected to secure a stranglehold on a vital line of our communications.

In all of this history has largely repeated itself, and there is a curious resemblance between the strategical situation to-day and that which maintained when Napoleon overran Europe. A hundred and thirty years ago he was master of what are now Germany, Belgium, Holland, Spain, Switzerland, and Italy; Poland had shrunk to the Duchy of Warsaw—also under his influence. But Nelson had already disillusioned his overseas ambitions: the Nile saved Egypt and the Mediterranean; Trafalgar ended his dreams of invading Britain. Hitler dreams the same dreams as Napoleon—the conquest of England, the disintegration of the British Empire. Yet to-day we are relatively much stronger at sea than we were at the time of Trafalgar; it is to the air, therefore, that he must look to bring him the success which Napoleon failed to achieve.

Can the element which man has conquered—so largely to his own undoing—within the last quarter of a century, enable the new master of half Europe to exploit his territorial conquests and extend his grip to nations overseas? Can it serve him so well and so speedily that he will defeat us before starvation and all that it brings in its train is his undoing? Those are the big questions the answers to which the near future must reveal.

Britain is, rightly, standing on guard, day and night, against an invasion; but there is this great difference between the sort of invasion we may have to meet and that which overwhelmed our late Allies. A mechanized spear-head enabled the German hordes of infantry to make good their threatened *blitzkrieg*; the air was a useful auxiliary—little more. In an invasion of Britain, German air forces will have to provide the spear-head, and events have already shown that they will meet with far more effective resistance than the enemy's tanks did. Furthermore, whereas tanks could be followed by artillery and troops moving up in comparative security to consolidate their gains, the main forces to consolidate any precarious advantages which the enemy may achieve by bombing and air-borne raiders will now have to be brought by sea. The degree to which we command that element must have been impressed even on Hitler's unnaautical mind by our successful evacuation of the British Expeditionary Force.

THE PSYCHOLOGICAL ASPECT

There is yet another difference which the enemy will experience if he attempts to invade this country as compared with the circumstances which made his progress on the Continent so easy: a difference as vital in its importance as that between the sea and the land. The Prime Minister expressed it vividly when he said: "Hitler has not yet been withstood by a great nation with a will-power the equal of his own. Many of these countries have been poisoned by intrigue before they were struck down by violence. They have been rotted from within before they were smitten from without. How else can you explain what has happened to France, to the French army, to the leaders of the French people? But here in our island we are in good health and in good heart."

It is useless to indulge in recriminations, but it is a mere statement of fact to say that our allies in this war have been liabilities and not assets. Now that we are alone in the fight we have a sense of freedom and a feeling that we can concentrate on British interests.

Britain is very far from being the beleaguered fortress our enemies would have the world believe. On the contrary, our island is an advanced base in which the great Imperial effort centres and from which presently will radiate those forces which will restore freedom to the victims of Prussian avarice and peace with honour to the Empire.

ITALY AS AN ALLY

ASSET OR LIABILITY

By COLONEL R. H. BEADON, C.B.E., *p.s.c.*

IT is unlikely that any student of war who is familiar with conditions in Italy and her military strength could have been seriously perturbed by the Duce's open adhesion to his Axis master ; nor does the recent deplorable collapse of France give much cause for undue apprehension as to the part Italy may play as Germany's ally. There is little that she is capable of achieving to help her senior partner, while there is much that might definitely embarrass him, both in the economic and military fields.

Italy is so poor in resources that she is positively incapable of carrying on any sort of war without extraneous assistance which, now that she is in the grip of our blockade, can only be afforded at the expense of Germany who would certainly make far more dangerous use of them herself. For instance, until recently, Italy was wholly dependent on Germany for coal, which could only reach her via the Brenner tunnel, although it may be noted that the German occupation of France now provides two additional lines : those by Modane and Ventimiglia will, no doubt, be fully utilized for the transit of goods, including the products of French coal mines. Nevertheless, in view of the German coal shortage of last winter, the Nazis can hardly view such diversion of their supplies with complacency. It may be recalled that prior to her entry into the War, Italy made a large contract for coal with South Africa—a source on which she can no longer rely ; she has in effect exchanged South African coal for the visits of South African bombers to her East African possessions.

Coal is, of course, only one item which Italy must have. There is no country so poor in natural resources and as soon as she begins to feel the effect of the blockade the more insistent will become her demands on her master. In the financial sphere she has for long been on the verge of bankruptcy.

In the military sphere it is well known that the German army holds the Italians in something like contempt. Certainly Italian troops might be suitable for defensive tasks in order to free German troops for more active operations elsewhere ; but the need for such services is now to a great extent a thing of the past.

We must not, of course, make the mistake of dismissing all Italian troops as absolutely worthless. Certainly the Tuscans and the Neapolitans are of little account ; but other elements, such as the Alpine and the Sardinians, are capable of good fighting ; the former, however, are not now likely to have suitable *terrain* for their special qualifications, while the latter are among the most lukewarm supporters of the Duce's regime.

The Italian navy has yet to show that it is imbued with a more offensive spirit than in the last war. True, it is a numerous force and, on paper, formidable, but such episodes as the surrender of a well-armed submarine to a British trawler and the reluctance of the main fleet to emerge from harbour and save the French ships at Oran from falling into our clutches would seem to indicate that the leopard has not changed his spots.

In face of these facts, why should Hitler have treated Mussolini with such consideration over the matter of an armistice with France ? It must surely have been that the German dictator hoped that Italy might be a useful partner in the war with Britain. If so, it seems probable that Hitler, wholly ignorant as he is of matters connected with the sea, has estimated the Italian fleet, and probably the air force too, at their paper value. Even supposing both came up to his " wishful " expectations, it appears doubtful whether their combined efforts will prove worth the material support that he will be compelled to give the Italians to enable them to continue to operate.

The real test will come during the approaching autumn or winter. Until then our aim will doubtless be to weaken Mussolini's hold on his African possessions and to deprive his overseas forces of vital supplies while losing no opportunity to attack and embarrass his home defences. Should the Fascist regime and the Duce's own prestige start to totter Hitler may discover, as we did in the last war, that Italy as an ally is a liability and not an asset ; but that, unlike us, he is not able to prop her up to the end.

DIARY OF THE WAR, 1940

21st April.—The first official British communiques regarding the operations in Norway stated that **British troops had landed at Namsos** and were co-operating with Norwegian forces; the extravagant German claims of damage done the previous day by air-raids on Namsos were denied, only H.M. trawler "Rutlandshire" having been sunk, although the town had suffered heavily. "There were no casualties to allied troops."

At night the R.A.F. again raided, with good effect, the German aerodrome at Aalborg, Denmark; one of our machines failed to return. Another air-raid was also made on the Stavanger aerodrome where a number of enemy aircraft were destroyed; all the R.A.F. machines returned safely.

22nd April.—The War Office announced that **our troops "landing at many places" in Norway** had achieved considerable successes in the face of great difficulties. They had gained touch with Norwegian forces to whom they were giving all support in their power.

Reports from Sweden spoke of allied pressure upon the Germans about Trondhjem and an advance southward towards Oslo which had reached Lillehammer. French troops were said to have landed at Namsos and the Dombaas-Lillehammer railway to be under allied control.

At night, the R.A.F. attacked the German aerodromes outside Oslo at Kjeller and Fornebu where a large fire was started by incendiary bombs. Aalborg aerodrome was again attacked. One R.A.F. machine failed to return.

Sweden protested at the continued flights of German aeroplanes over West and South-East Sweden.

23rd April.—The War Office announced that in Norway a sharp engagement had taken place North of Trondhjem where the Germans had landed a considerable number of troops from ships within the Trondhjem Fjord and counter-attacked an advanced detachment of British troops pushing forward from Namsos. Suffering some loss, our troops withdrew successfully to avoid being cut off.

Swedish messages stated that German aeroplanes had bombed heavily the Trondhjem and Lillehammer regions.

The Allied Supreme War Council concluded its meeting in Paris which had begun on the previous day. Representatives of Poland and Norway were present for the first time.

In the second War Budget presented to the House of Commons Sir John Simon estimated expenditure for the year 1940-41 at £2,666,790,000. Of this, the War accounted for £2,000,000,000. Revenue was estimated at £1,234,391,000, leaving £1,432,399,000 to be raised by loan.

At night the R.A.F. "heavily and successfully attacked" the German aerodrome on the island of Sylt; North of Sylt two German patrol vessels were sunk. Attacks were also made on enemy air bases at Aalborg, Kristiansand, Oslo and Stavanger, and an offensive reconnaissance was carried out over Trondhjem Fjord.

- 24th April.—Reports of the fighting in Norway from Sweden stated that intensive German bombing continued at Namsos and on the road to Stenkjer, held by the Germans, the allied positions being North and East of that town. South of Trondhjem opposing forces were in contact in the Osterdal.

The Germans claimed progress North-West of Oslo; the end of resistance between Oslo and Stavanger; and that fighting was in progress 40 miles East of Bergen.

- 25th April.—**The French reported that their destroyers had sunk two enemy patrol ships at the entrance to the Skagerrak** and returned unscathed to their base in spite of attack from the air.

"Increased enemy pressure" had obliged the allied troops near Lillehammer to withdraw from their positions.

Reports from Swedish sources seemed to show that in the Osterdal the opposing forces were in contact about Røros. Farther West, the Germans advancing by the Gudbrandsdal had encountered allied troops pushing down from Aandsnes.

The War Office announced that the British troops operating in Norway were to be known as the North-Western Expeditionary Force (N.W.E.F.).

The first contingent of Newfoundland troops arrived in England.

- 26th April.—The Air Ministry announced that throughout the previous

day and night the R.A.F. had taken the offensive on a large scale : oil tanks at Vallo on Oslo Fjord had been set alight and a large transport in the fjord attacked ; fires were caused at the seaplane base at Stavanger and North-West of that town attacks were made on four large ships ; an enemy bomber had been shot down and an enemy flying-boat seriously damaged. In Norway six enemy machines had been shot down by our fighters and A.A. guns ; five of our aircraft were missing.

The N.W.E.F. was reported to have been heavily engaged South of Dombaas by strong enemy forces " supported by medium artillery, armoured fighting vehicles, and low-flying aircraft." Limited withdrawals had been necessary.

A Norwegian communique stated that the German advance eastward from Bergen had been checked about Gulsvik. Only small forces appeared to be engaged.

27th April.—British troops in the Gudbrandsdal were reported to have repulsed with considerable loss enemy attacks in the Kvam area.

In the Bergen area the Norwegians were said to have checked at Voss the German advance along the railway from Bergen. The enemy was reported to have landed troops at Hardanger Fjord, South-East of Bergen.

A meeting (the ninth) of the Allied Supreme War Council was held in London, Polish and Norwegian representatives being present.

A German official decree stated that " the Nygaardsvold Government, through its proclamations and its attitude, as well as through the war-like actions which are taking place according to its wishes, has created a state of war between Norway and the German Reich."

In a speech to the Diplomatic Corps and the Press, Ribbentrop attempted to justify the German invasion of Norway by alleging that the Allies, with Norway's approval, had planned to spread the war to Scandinavia before German action was taken. Documents proving the German case were said to have been seized in Norway.

On this day 312,912 men (including the 26 age group) registered in Great Britain under the National Service Act.

In Norway, where resistance had not been paralysed as the Germans had hoped and planned for, the Allies had done all that could be expected considering the handicaps under which they had to operate. Most of

the Norwegian ports and aerodromes were in German hands, so that the allied landings had to be made wherever possible, whilst the disembarkation of guns, vehicles, ammunition, etc., presented serious if not insuperable difficulties. Likewise, there were no British air-bases in Norway, and the Germans had taken full advantage of their superiority in the air.

After landing at Namsos and Aandalsnes the Allies had moved against Trondhjem, where they had not yet sufficient forces to develop a real offensive, and had also pushed forward to gain contact with the Germans advancing up the valleys, the Osterdal and Gudbrandsdal, from Oslo. In his efforts to gain contact with Trondhjem the enemy had reached Røros in the Osterdal; but, although in superior force, he appeared to be held in the Gudbrandsdal some distance South of the Dombaas railway junction. From Bergen a German advance eastward along the railway had made considerable progress. In the North the heavy snow seemed to have caused a suspension of operations round Narvik.

Major-General Carton de Wiart, V.C., was commanding the British troops in Norway (N.W.E.F.).

The German Foreign Minister's allegations concerning the allied designs on Norway were received by the whole world—except the Italian press—at their true worth.

During the week one Norwegian and one British ship were sunk by enemy action. Both vessels were mined. Our loss of merchant ships, up to date, represented only 3 per cent. of our total tonnage, and this loss had been almost wholly made good by new building, purchase from abroad, and capture from the enemy.

28th April.—The N.W.E.F. was reported to have repulsed with heavy loss another attack upon its position in the Gudbrandsdal, where the Germans used low-flying aircraft and tanks. Three of their medium tanks were destroyed. Further disembarkations had been carried out despite enemy air action against Aandalsnes and on the British lines of communication.

Other reports were to the effect that German mechanized forces were crossing the mountains from the Osterdal in order to reach the Dombaas-Stören railway; the enemy was said to be checked in the Gudbrandsdal 15 miles North of Lillehammer, and to have landed considerable reinforcements at Oslo; German aircraft had bombed Aalesund (150 miles North of Bergen) and Molde (35 miles North-East of Aalesund) severely.

The Admiralty announced that the approaches to Narvik had been mined.

The British Foreign Office issued a denial of the persistent German allegations that British aeroplanes had bombed open towns and villages in Germany.

29th April.—The Air Ministry announced that a Sunderland flying-boat had shot down a Messerschmitt 110 fighter near Molde Fjord.

In denying the fantastic German claims of damage inflicted upon British warships the Admiralty announced the sinking of H.M. trawlers "Hammond" and "Larwood," bombed from the air in Norwegian waters. There was no loss of life. On the other hand, **three more German supply ships had been torpedoed and sunk.**

The first Anglo-French communique was issued concerning the operations in Norway: North of Stenkjer the enemy had been worsted in several patrol encounters.

Unofficial reports were published of the landing of large allied forces at Nord Fjord (60 miles S.W. of Aandalsnes) and Sundals Fjord (30 miles N.E. of Aandalsnes); the German detachments crossing the mountains from the Osterdal were said to have been heavily engaged; fighting was reported on the Stenkjer front, with British fighter aircraft and German tanks in action.

A Norwegian report stated that over Aalesund an air battle between German bombers and British fighters had resulted in losses on both sides. Off Aalesund German aeroplanes bombed and machine-gunned two Norwegian hospital ships; five people, including a doctor and two women nurses, were killed, and many wounded.

The Germans claimed the collapse of Norwegian resistance in the Stavanger area.

The first contingent arrived at No. 1 School, Toronto, Canada, to inaugurate the Empire Air Training Scheme.

Rhodesian troops arrived at Suez.

30th April.—On the night of the 29th/30th the R.A.F. again raided the German air-base at Fornebu, near Oslo, doing extensive damage. One of our aircraft failed to return.

The German High Command announced that German troops had reached Dombaas and that Opdal (midway between Dombaas and Stören) had been occupied; also that South-West of Stören a

junction had been made by troops advancing from Oslo by way of Tönsaet with troops pushing South from Trondhjem.

Shortly before midnight after heavy fighting the British checked any further German advance in the Dombaas area; North of Stenkjer heavy casualties were inflicted on the enemy in patrol encounters; fresh landings had taken place.

Other reports *via* Sweden stated that there had been heavy German air-attacks on Namsos and Grong, and a German repulse at Stenkjer; Röros was said to have been reoccupied by the Norwegians and Stören still to be in allied possession; large allied reinforcements from the coast had reached the Dombaas-Stören line where fighting continued.

The Admiralty announced that H.M. submarines "Tarpon" and "Sterlet," now considerably overdue, must be presumed lost. H.M. trawlers "Bradman" and "Cape Siretoko" had been damaged by bombs and subsequently sank, but with no loss of life.

Germany announced the closing of the Great Belt (leading from the Kattegat to the Baltic) by a net barrage.

At night a Heinkel bomber crashed in Clacton-on-Sea. The four Germans comprising the crew were killed; British civilian casualties amounted to two killed and 156 injured. Nearly thirty houses were destroyed and fifty others rendered uninhabitable; the A.R.P. services did excellent work. The German aircraft appears to have been attacked by British fighters and disabled earlier in the day.

Strong forces of the R.A.F. made night attacks upon the German air-bases at Fornebu (Oslo), Stavanger and Aalborg, heavy damage being done and many German aircraft hit. At least three German fighters were shot down; seven of our aircraft were lost during the operations.

1st May.—In the morning further attacks were carried out by the R.A.F. on the air-base at Stavanger.

In the Dombaas area the British troops were reported to have withdrawn to prepared positions after stubborn resistance in the face of strong enemy attacks.

British official and other reports from Norway established the fact that the Allies were closing in on Narvik; the Norwegians claimed to have occupied Röros in the Osterdal and even to have reached Tönsaet.

The Admiralty announced the loss of H.M. minesweeper "Dunoon" sunk by mine. Three officers and 25 ratings were missing.

During the night 1st/2nd May the R.A.F. resumed its attacks upon the air-bases at Fornebu, Aalborg and Stavanger. A German seaplane was shot down near the island of Nordeney.

2nd May.—In the House of Commons, the Prime Minister revealed that the whole of our forces had been withdrawn from Aandalsnes "under the very nose of the German aeroplanes without, so far as is known, the loss of a single man." He said that Norway would not become "merely a side-show," but there would be no dispersion of force which left the Allies dangerously weak at the vital centres. The crippling of the German fleet had made possible a "more normal distribution of our ships," and an allied battle fleet was already in the Mediterranean, approaching Alexandria.

Subsequently the War Office announced that the forces which had been "carrying out delaying operations South of Trondhjem during the past few days" had successfully re-embarked at Aandalsnes and other neighbouring ports in spite of enemy air action.

The Germans claimed the occupation of Aandalsnes at 3 p.m. on this day; also that their advance eastward from Bergen had gained contact at a point on the Bergen-Oslo railway with troops pushed out north-westward from Oslo.

The Admiralty announced the loss by fire, after air-bombing, of H.M. sloop "Bittern." No British casualties were reported. During the engagement at least one enemy aircraft was shot down.

The French reported damage in action to one of their destroyers, also one patrol vessel sunk by mine. **A French submarine had sunk a German submarine.**

The R.A.F. carried out another successful raid on the German air-bases at Stavanger and Fornebu; the large airfield at Ry in northern Denmark was also repeatedly and successfully bombed. All our aircraft returned safely.

3rd May.—An R.A.F. reconnaissance aircraft was engaged by three enemy fighters, one of which was shot down near the island of Borkum.

The War Office announced that the withdrawal of the allied troops "from the immediate neighbourhood of Trondhjem" had been completed by their re-embarkation on the night 2nd/3rd May

"without loss and with complete success." In the Narvik area the Germans had delivered two counter-attacks (1st and 2nd May) both of which had been repulsed with loss.

Norwegian reports claimed that resistance in the Namsos area continued; the Germans were in Stören and were also making progress up the Osterdal; following their advance along the Guldal from the North fighting had begun at Rognes, half-way between Stören and Röros.

The Germans reported that Norwegian resistance in southern Norway was slowly collapsing.

A large allied fleet began to arrive at Alexandria.

Rhodesian troops had arrived in Palestine from Egypt.

4th May.—Norwegian reports stated that the British and French troops withdrawn from Namsos had been landed safely at a destination not disclosed; the Norwegian Commander-in-Chief had established his headquarters in the North.

According to messages from Sweden the fortress of Hegre (East of Trondhjem) was still holding out; Stören was in German hands, but fighting continued in the Osterdal near Röros; the allied bombardment, both from land and sea, continued at Narvik.

The Germans claimed large surrenders in the Aandalsnes area.

The withdrawal of the allied forces from central and southern Norway was inevitable, as there existed no facilities for landing tanks and heavy guns and no local aerodromes from which allied fighters could reduce German superiority in the air. The deciding factor appeared to have been the efficient co-operation of the German aircraft with their land forces; nevertheless the allied re-embarkation appeared to have been executed with little loss.

During the week ending 30th April, the **Fleet Air Arm did admirable work**: in supporting the allied land forces it destroyed at least ten German aircraft and damaged many more; in attacks upon enemy air bases and shipping in the Trondhjem area it destroyed all the hangars at Vaarnes, together with many vessels and aircraft, others being severely damaged. Our warships, during the same period, had shot down at least twenty of the German bombing aeroplanes which had attacked them. Naval operations against German sea-communications in the Skagerrak and Kattegat had continued with vigour, but no details were divulged.

The strengthening of allied naval forces in the Mediterranean was not due solely to the attitude of the Italian Government and press: it was calculated to have its effect upon opinion in the Balkan states.

Neutral nations, notably Sweden, Holland and Rumania, had taken warning from the German methods practised on Norway, looking to their internal security by eliminating Nazi elements. Rumania was said to have deported a considerable number of Germans.

The loss of the "Tarpon" and "Sterlet" brought our total loss in submarines to seven.

5th May.—In Norway the Germans were reported to have occupied Grong and Namsos; the fortress of Hegre (East of Trondhjem) was said to have surrendered. Røros had again been occupied by the enemy, but fighting in the vicinity continued.

6th May.—**The British Admiralty reported the loss of the destroyer "Afridi" sunk by bombs during air attack** whilst on escort with transports carrying troops withdrawn from Namsos. The enemy aircraft attacked in successive waves and two were shot down; the troop transports were untouched.

The loss by bombing from the air was also announced of the Polish destroyer "Grom" (one officer and 65 ratings missing) and the French destroyer "Bison," of whose crew most were saved. The "Bison," also, was stated to have been on escort duty with troop transports.

In Norway the Germans were reported to be reinforcing their troops at Narvik by transport aeroplanes; also to be advancing northward from Namsos. Norwegian resistance between Røros and Stören continued.

7th May.—In a proclamation King Haakon announced that his troops still occupied strong positions in northern Norway and that help was being planned.

The Norwegian 6th Division was reported to be engaging German troops North and South-East of Trondhjem; fighting continued between Røros and Stören.

Many Norwegian vessels, containing refugees, were said to have been attacked by German aircraft off the Norwegian coast, a hospital ship being wrecked with the loss of 29 killed and wounded.

8th May.—The Admiralty announced the loss of the following naval trawlers during operations off the Norwegian coast: "Warwickshire," "Cape Chelyuskin," damaged and subsequently sunk; "Jardine," "St. Goran," "Gaul," "Aston Villa," damaged by air attack and sunk by our naval forces as unseaworthy. Loss in personnel was slight.

The Polish Government in France announced the landing in Norway "very recently" of Polish mountain troops.

The German High Command stated that the last vestiges of resistance in middle and South Norway had been crushed.

9th May.—R.A.F. fighters shot down two German aircraft off the North-East coast of Scotland; a Hurricane of the Fighter Command damaged a Junkers 88 in an encounter off the East coast of England.

The Admiralty announced that British submarines had secured six hits with torpedoes on one German troop convoy, three hits on a second and two on a third. One German ship sailing independently was torpedoed and sunk; another was driven ashore and destroyed by gunfire and torpedo.

A Royal Proclamation made liable for military service all men born between 10th May, 1903, and 9th May, 1921.

A German memorandum to Holland and Belgium accused these countries of conniving in an allied intention to attack the Ruhr through the Low Countries and demanded that they should suffer themselves to come under German "protection" by permitting a German occupation. Both Belgium and Holland promptly refused this demand.

10th May.—**At dawn Germany invaded Holland, Belgium and Luxembourg.** In combination with the advance of land forces many towns, including Brussels and Antwerp, were bombed from the air and attempts were made to seize the chief aerodromes and various other objectives by means of parachutists and other troops carried by air. This plan had considerable success and there was heavy fighting at several of the Dutch air-bases, notably that at Rotterdam, and at the Hague, where seaplanes were used. The land invasion of Belgium was reported to be checked; that of Holland delayed by stout resistance in front of the river Ijssel, except at one point, Arnhem, where fighting continued.

Both Belgium and Holland having promptly applied for allied assistance **British and French forces moved at once into Belgium.**

Coincident with the invasion of the Low Countries, extensive German air-raids were carried out upon French aerodromes and centres of population, among them Lyons, Pontoise, Nancy, Colmar, and Longwy; also towns near the Belgian frontier. The

R.A.F. in France were heavily engaged ; several of its aerodromes were bombed, but little damage was caused.

In the evening a slight German advance was made East of the Moselle.

British forces were reported to have been landed in Iceland to protect the country from German seizure.

In Norway the persistent bombing of open towns by the Germans had resulted in the complete destruction of Kristiansund.

The British and French Governments announced that in view of the deliberate bombing of open towns by the Germans they reserved the right to take such air action as they might consider appropriate. A lie, promptly denied by the Air Ministry, was promulgated in Berlin to the effect that three allied aircraft had bombed the open town of Freiburg killing 24 civilians.

The Prime Minister, Mr. Neville Chamberlain, resigned, and Mr. Winston Churchill assumed office. The Labour Party expressed itself willing to be represented in a reconstructed Government.

During the night of the 10th/11th heavy air-raids were carried out on Holland.

11th May.—Amsterdam was twice attacked in the early morning. "Waves of parachutists" landed during the night were sought out and engaged by Dutch troops. Street fighting occurred at the Hague and in Amsterdam. German forces were reported to have crossed the Albert canal (at Maastricht) and to have reached the outer defences of Liège. The Dutch High Command announced that **French and British troops had arrived in Holland** ; more than 100 German aeroplanes had been brought down.

Belgian Army headquarters reported that many German parachutists had landed during the night, but most of them had been captured. Fighting was in progress on the Albert canal, on the Meuse, and in the Ardennes. Alost, Renaix, Louvain, and Verviers were reported to have been bombed from the air.

British G.H.Q. reported air-raids upon the British troops moving into the Low Countries from France. The R.A.F. had bombed enemy concentrations between the Rhine and the Meuse, also German troops advancing towards the Dutch frontier. The French air force had done similar work, and the French repulsed violent attacks from the South of Luxembourg.

The Admiralty announced that the Fleet Air Arm had made two further attacks on the enemy at Bergen obtaining three hits on a German warship and setting fuel tanks on fire.

Notice was given by the Admiralty that minefields might be laid without further warning below Bergen and opposite Namsos.

General mobilization began in Switzerland at 9 a.m.

British and French forces were reported to have landed in the Dutch West Indian islands of Curaçao and Aruba to assist the local authorities in safeguarding the oil refineries from sabotage.

The long-expected invasion of the Low Countries indicated that the climax of the War might be reached in a few months or even less.

Germany's efforts to undermine by treachery the defensive strength of her victims unfortunately succeeded to a considerable extent. Her air tactics initiated a new phase of modern warfare. The landing of troops by air on the Dutch coast, and the descent of parachutists in large numbers to seize airfields and other important points, facilitated the swift advance of the invading German columns. Although allied forces moved at once to the help of Holland and Belgium, there were no properly co-ordinated defensive plans, for both these countries had regarded such measures as inconsistent with their attitude of "strict neutrality."

A low Government majority at the end of the debate on the 8th May reflected Great Britain's insistence upon a more resolute and vigorous conduct of the war, but the prudence of conserving our resources by limiting our commitments in Norway was abundantly justified about thirty-six hours later. Mr. Churchill's succession to the office of Prime Minister brought the Opposition in to give full support to a new Cabinet.

H.M.S. "Afridi" (1870 tons, normal complement 219), a destroyer of the Tribal class, was the eleventh British destroyer lost since the outbreak of war.

By the end of April the German losses in merchant shipping were reckoned to amount to 600,000 tons. Since the outbreak of the war the British Contraband Control had seized about 576,600 tons of goods, mainly base metals, petroleum products, and textiles.

During the week ended at midnight 28th/29th April, four British, one allied, and two neutral merchant ships were sunk by enemy action.

The Royal Proclamation of the 9th May was estimated to affect 2,500,000 men.

12th May.—Widespread German bombing attacks were again made on the Low Countries ; and in Holland several hundred air-carried troops were landed. Many of them were rounded up, but Germans still held out in Rotterdam.

Belgium reported that enemy attacks upon the Liège defences had been repulsed with heavy loss ; in the Maastricht area her troops had been forced to withdraw to Tongres but a counter-attack had checked the German advance ; French motorized forces had attacked the Germans in Luxembourg which was " partly in the possession of the enemy " ; parachutists who had been dropped near Brussels had been dealt with. Allied aircraft had participated in many successful aerial engagements.

British and French forces continued their move to support the Dutch and Belgians. The R.A.F. again bombed the German communications, besides engaging with success German air forces in and over Holland. Further German attacks on R.A.F. aerodromes in France had little success, a number of German bombers being shot down.

German air forces again bombed towns in north-eastern France, many civilians being killed ; troop trains were also attacked. The French advanced posts between the Forest of Warndt and the Saar were heavily engaged.

The Admiralty announced that H.M. submarine " Seal " was overdue, and must be presumed lost.

The names of the principal Ministers in Mr. Churchill's new Cabinet were made known : an inner War Cabinet of five to consist of the Prime Minister, Mr. Chamberlain (Lord President of the Council), Mr. C. R. Attlee (Lord Privy Seal), Lord Halifax (Foreign Secretary), and Mr. A. Greenwood (without portfolio) ; Mr. A. V. Alexander to be First Lord of the Admiralty, Mr. A. Eden, Secretary of State for War, Sir A. Sinclair, Secretary of State for Air, Sir Kingsley Wood, Chancellor of the Exchequer, Mr. H. Morrison, Minister of Supply, and Mr. Duff Cooper, Minister of Information. Sir John Simon became Lord Chancellor, and Lord Lloyd, Colonial Secretary.

Preparations were made for the further evacuation of school-children, and more drastic methods were adopted regarding the internment of aliens.

13th May.—The Dutch High Command reported that German troops had reached the Zuyder Zee and had crossed the rivers Ijssel and

Maas at several points. In Brabant French troops had made contact with the enemy.

Belgian reports spoke of hard fighting in co-operation with British and French forces and little loss of ground.

The French had had a successful tank action in the region of St. Trond (Belgium), but also stated that the Germans had made good progress through the Ardennes towards the Meuse; their attacks had been repulsed at Longwy, East of the Moselle and in the Saar region.

Having again bombed Waalhaven (Rotterdam) aerodrome during the night, the R.A.F. continued its attacks on German communications with considerable success; heavy loss was inflicted on German aircraft.

The Admiralty announced that our naval forces, in spite of bombing attacks, had continued to support the allied land operations.

Reporting the continued successful advance of our land forces British G.H.Q. stated that cavalry (light mechanized) units had had the advantage in minor encounters with the enemy.

Queen Wilhelmina of Holland arrived in London. It was officially announced that the seat of the Dutch Government was no longer at the Hague.

The Norwegian High Command reported the defeat of a German landing in the South of Tromsø province; such troops as had disembarked were surrounded.

The following Ministerial appointments were announced: Mr. L. C. M. S. Amery, Secretary of State for India; Mr. Malcolm MacDonald, Minister of Health; Mr. Ernest Bevin, Minister of Labour. Lord Woolton continued in his office as Minister of Food.

14th May—Belgium reported heavy encounters with German mechanized columns, well supported from the air; about Namur; Belgian mechanized units and cavalry had fought a "brilliant action" in the region of the Gette on the previous day. So far as was known the forts at Liège were still in action. The French announced an advance North of the Meuse; on that river, from Namur to Sedan, heavy fighting had developed, the Germans making desperate attempts to cross.

The R.A.F. continued to harass German columns and communications in Holland and Belgium, and also to protect the advance of the allied forces.

In Holland the German advance westward astride the river Maas reached Rotterdam, turning the positions of the main Dutch forces holding the waterline to the North. The Dutch Commander-in-Chief therefore ordered these forces to cease resistance ; but fighting continued in Zeeland.

The Dutch Government arrived in London. In a proclamation Queen Wilhelmina declared that there was no thought of capitulation.

Allied forces made a landing in Norway at Bjerkvik (seven miles North of Narvik) in rear of the German positions in the Gratangen area. An enemy detachment which had landed at Hemnes was bombarded from the sea.

Among the new Ministerial appointments announced were : Lord Beaverbrook, Aircraft Production (a new Ministry) ; Mr. Hugh Dalton, Economic Warfare ; Mr. R. H. Cross, Shipping ; Mr. R. S. Hudson, Agriculture ; Lord Hankey, Chancellor of the Duchy of Lancaster.

The War Office announced the formation of a new force to be termed Local Defence Volunteers to supplement the home defences. This force was mainly intended to cope with Germans who might be landed by parachute.

15th May.—**The German occupation of Holland proceeded.** Certain Dutch troops were reported to have been forced southward into Belgium where they were to be reorganized. The Dutch losses were estimated to amount to 100,000 out of 400,000.

The bulk of the Dutch Navy was reported to have left Holland, being either in the North Sea or in British ports.

The Belgian High Command reported engagements with light forces of the enemy, and the successful carrying out of demolitions. The forts at Liège were said to be maintaining their resistance.

According to the French communiques German tank attacks on the line Antwerp-Namur had been repulsed by British, French and Belgian troops ; the enemy had succeeded in crossing the Meuse at several points between Mezières and Namur ; fighting continued. Counter-attacks were in progress near Sedan where the Germans had made headway.

The B.E.F. reported that serious German attacks had been held after hard fighting ; **the "air component" had destroyed at least 124 German aeroplanes and the Army had shot down about 40 more.** Also, the R.A.F. had co-operated with the French forces on the Meuse. In the Sedan area (on 14th May)

combined British and French air action had inflicted great loss and permitted the French to launch a counter-attack. Our losses here were reported to be 35 machines, "not excessive in view of the results obtained."

In Norway, allied operations at Narvik proceeded systematically. The Germans admitted the continuation of "fierce guerilla warfare" in the Röros region.

The closure was announced of the Contraband Control bases at Kirkwall, the Downs, and Weymouth, "the countries whose shipping was dealt with at these bases being now in German hands."

The Admiralty announced that H.M. destroyer "Valentine" had been damaged by air attack off the Dutch coast, and subsequently beached.

16th May.—On the night of the 15th/16th May, the R.A.F. bombed the German communications East of the Rhine with great effect. During the day our aircraft co-operated successfully in the repulse of attacks in Belgium.

The B.E.F., in contact with the enemy East of Brussels, repulsed attacks upon Louvain. Elsewhere in Belgium the Belgians had successful encounters with German light forces and more demolitions were carried out. At Liège the forts were said to be resisting still. **The Belgian Government left Brussels for Ostend.**

Operations continued at Narvik which was bombarded by British warships and aircraft. Allied troops crossed Rombaks Fjord to establish themselves in the German rear.

The War Office announced that over 250,000 men had enrolled as Local Defence Volunteers.

At night Mr. Winston Churchill paid a flying visit to Paris where he conferred with MM. Reynaud and Daladier and General Gamelin.

During the night, R.A.F. bombers again raided with success military objectives in Western Germany; they also attacked with great effect German troops, transport and dumps in the woods around Sedan.

17th May.—**The B.E.F. withdrew during the night** "without any interference from the enemy" **to positions West of Brussels.** To this movement the Belgian forces conformed. Engagements with the advancing enemy followed in central Belgium and North

and North-East of Antwerp. **The Germans** announced that their troops **entered Brussels in the afternoon.**

In Holland the islands of Beveland and Walcheren (Zeeland) were evacuated.

The main German blow was pressed hard against the French, the enemy reaching the vicinity of Avesnes, Vervins and Rethel.

The R.A.F. carried out successful raids on Stavanger and other aerodromes occupied by the Germans in Norway.

The War Office announced a continuation of the successful advance North of Narvik.

The arrival at Suez was announced of the second contingent Australian Imperial Force.

18th May.—During the night 17th/18th May the R.A.F. again delivered heavy attacks upon the German communications in France and Belgium ; also, fuel tanks at Hamburg and Bremen were bombed.

Belgian forces repulsed German attacks as did the B.E.F. on the Belgian front. **The Germans, however, claimed to have broken through the fortifications and captured Antwerp.**

In France violent fighting continued in the regions of Avesnes and Vervins ; also near Guise and Landrecies.

The French Cabinet was reconstructed ; M. Reynaud the Prime Minister became also War Minister, whilst M. Daladier took over the Ministry of Foreign Affairs. **General Pétain became Vice-Premier.**

The British Foreign Office had again to deny a German allegation that the R.A.F. had bombed German territory at random, killing many civilians.

Within five days, the Germans overcame the resistance of the Dutch, mainly as the result of a swift thrust westward on Rotterdam where air-carried troops and local Germans had established a centre of resistance at the outset of the invasion. This success entailed the withdrawal of the allied forces in Belgium to a line West of Brussels. The main German blow, however, had fallen upon the French. Powerful armoured columns, supported by hordes of low-flying aeroplanes, had crossed the Meuse and pierced the north-western extension of the Maginot position from a point near Sedan to the vicinity of Maubeuge. The enemy had then endeavoured to enlarge the salient—marked by Rethel, Vervins, Avesnes—thus created, by an advance from its western side. The whole attack had pushed forward regardless of heavy losses, and it was

estimated that from 2500 to 3000 armoured fighting vehicles had been engaged in it.

Magnificent work had been done by the R.A.F. in close co-operation with the allied troops, in attacking the enemy communications in Germany, Belgium and France, and in destructive raids upon the German oil reserves. Our air force showed a marked superiority over their opponents whose losses in aircraft were computed to be at least three times as heavy as our own. The task of the Royal Navy—attacking German aircraft and forces landed on the Dutch coast, sweeping mines, destroying oil fuel and other material of military value, and securing the escape by sea of refugees—was no less gallantly and effectively carried out, although our ships and men were heavily bombarded from the air. So far, the B.E.F. had not been heavily engaged.

The German methods of "total" warfare were seen at their most characteristic: helpless refugees were bombed and machine-gunned on the roads, in towns and villages, in the ports and on the rescue ships; ambulances were attacked in similar fashion.

Only one British merchant ship was lost by enemy action in the week ended 5th May. Up to the 8th May, 19,922 ships had been escorted in convoy, and of these only 31 were lost. **By their invasion of Holland, the Germans had forfeited 145,000 tons of their shipping, seized in Dutch East Indian and West Indian ports, and their total loss was now reckoned at about 800,000 tons.**

19th May.—The R.A.F. raided Germany on the night 18th/19th May, securing direct hits on oil-fuel tanks at Hanover and causing further damage to the tanks at Hamburg and Bremen. The bombing of German troops and communications continued.

In France there was heavy fighting North-East of St. Quentin, and the French repulsed violent attacks near Montmédy. **The Germans claimed the capture of Le Cateau and St. Quentin.**

General Weygand succeeded General Gamelin as Commander-in-Chief of the Allied Armies in all theatres of war.

Germany announced the incorporation in the Reich of Eupen, Malmedy and Moresnet (Belgian frontier districts).

Norwegian Headquarters reported that all the German shore defences at Narvik had been destroyed. A German attempt at relief by sea had failed. At night the R.A.F. bombed the aerodrome at Vaernes North of Trondhjem.

During the night the R.A.F. bombed German communications and oil refineries in North-West Germany.

20th May.—The French, who had repulsed a German attempt to cross the Aisne from Rethel during the night, reported the failure of the Germans in an attempt to advance at Montmédy, and heavy fighting North and West of St. Quentin. **The Germans announced the capture of Laon and an advance to the Cambrai-Péronne road**; they also stated that engagements were taking place round Maubeuge and Valenciennes, and that all the inner forts of Liége and all the Namur forts except one were in their hands.

The B.E.F. and allied troops were engaged with German mechanized forces in the area South of the Scarpe "and in the Scheldt position," all attacks being beaten off.

The Admiralty announced that H.M. destroyer "Whitley" had been damaged by enemy bombs and beached; there were four casualties.

21st May.—In the night 20th/21st May, an R.A.F. bombing raid set oil tanks ablaze in Rotterdam. R.A.F. operations were also carried out against German troops and communications in France and Belgium, and were continued as usual during the day.

The French admitted that **German advanced troops had reached Amiens and Arras**, but stated that enemy attacks on the Aisne had been repulsed: the **Germans claimed that they had reached the Aisne-Oise canal**, had advanced westward as far as Abbeville, and **had bombed the Channel ports** with great loss to allied shipping.

In a speech to the Senate, M. Paul Reynaud—the French Premier—admitted the critical situation. He stated that the Meuse had been greatly over-rated as an obstacle to the German advance, so that the line was held with comparatively slender forces whose standard of training was not high; moreover, the Meuse bridges had not been destroyed, and the bulk of the local French divisions did not enter the battle in time. Thus the "hinge of the French Army was broken." Their confidence now reposed in General Weygand who was in full control.

The Admiralty announced the loss (with no casualties) of H.M. cruiser "Effingham" through striking an uncharted rock in Norwegian waters; also of H.M. minelayer "Princess Victoria" sunk by mine with the loss of her commander, two other officers and 31 ratings.

22nd May.—The R.A.F. attacks upon the German communications during the night 21st/22nd May included a large area radiating eastward from Aachen.

French troops re-occupied Arras. German advanced troops, in their movement towards the coast, reported progress north-westward towards St. Pol and Montreuil. The Germans also announced heavy fighting on the Scheldt and about Valenciennes.

Mr. Churchill again visited Paris and conferred with M. Reynaud and General Weygand.

During the night 21st/22nd May, the R.A.F. bombed the German aerodrome at Stavanger, Norway. In the Narvik area the Allies moved against the German position at Hundalen, near the Swedish frontier.

The Emergency Powers Defence Act, requiring all persons "to place themselves, their services, and their property at the disposal of His Majesty" was passed by both Houses of Parliament.

The Admiralty announced the loss of H.M. trawler "Rifsness" by enemy bombing attack: there were three casualties.

The R.A.F. continued their successful night attacks upon the German communications, a power station near Leipzig being bombed.

23rd May.—Troops of the B.E.F. with the Belgian Army were defending the Scheldt position when the enemy forced a crossing at Audenarde. British troops were also heavily engaged in the vicinity of Arras.

The Germans continued to pass armoured units through the gap in the allied line between Arras and Bapaume, and fighting began in and around Boulogne.

The French, who had advanced to Cambrai, reached the outskirts of Amiens. They repulsed an attack South of Sedan.

The Treachery Bill became law.

The French Admiralty announced the loss of the submarine "Doris," the destroyer "L'Adroit," and the supply ship "Le Niger," in the course of the operations off the Flanders coast.

At night the R.A.F. bombed German troops and communications over a wide area of France and Belgium and also in the Rhineland including Emmerich, Cologne and Coblenz.

24th May.—During the day, the Fleet Air Arm co-operated with the

R.A.F. in successful attacks upon enemy troop concentrations near the French coast.

The British and Belgian forces withdrew from the line of the Scheldt. The Germans claimed to have entered Ghent, taken Tournai and reached the Lys. They also stated that **Maubeuge had fallen**, and that the heights of Lorette were in their hands.

A French communique spoke of violent but indecisive encounters in the Arras-Cambrai regions and in the areas of St. Omer and Boulogne which had not yet "enabled us to establish the continuity of our front line as a whole." South of Sedan a powerful German effort was counter-attacked with success.

The French announced that the Germans had bombed Metz from the air and that a German city had been attacked in similar fashion as a reprisal.

Round Narvik the gradual envelopment of the German forces was said to be proceeding.

German aircraft were reported to have attacked the East Dudgeon lightship.

H.M. The King broadcast a message to the Empire.

Troops and communications in Belgium and North-West Germany were again heavily bombed by the R.A.F. during the night of the 24th/25th May; Flushing aerodrome was also attacked.

25th May.—During the night enemy aircraft dropped bombs on the North Riding of Yorkshire (8 civilians injured) and in Norfolk and Essex (no loss of life).

The R.A.F. again attacked the oil depots at Rotterdam, and the bridges of the Lys over which German reinforcements were passing were bombed with great effect.

Few details were divulged by the French High Command; but the gap between Péronne and Bapaume was stated to have been reduced to about 12 miles.

Striking claims were made by the Germans: capture of Boulogne; encirclement of Calais; complete encirclement of the Belgian Army, B.E.F., and part of the French First, Third, and Seventh Armies; Ghent and Courtrai captured; Lys crossed; Vimy Ridge, St. Omer and Gravelines in German hands.

The thrust westward of the German armies, with armoured fighting

vehicles and low-flying aeroplanes as the spearheads of the movement, created a gap in the allied positions through which the enemy reached the coast. Boulogne was captured and Calais threatened. By the end of the week the Belgian forces, with a large part of the B.E.F. on their right and the French on the right of the B.E.F., were defending a position behind the Lys which extended to Aire and the region between Aire and Valenciennes. A gap still existed between Arras and Amiens. Regardless of loss, the Germans continued to batter at the allied forces in Flanders and Artois; meanwhile the French had stabilized, and were improving, their positions from the sea along the line of the Somme and the Aisne and thus eastward to Montmédy. South of Sedan the Germans had continued to make fierce but unavailing attacks.

M. Reynaud's candour and the change in the French High Command seemed to indicate the determination of France to face with resolution a grave situation; the French Premier's admissions did nothing, of course, to explain why it had been possible for such a crisis to arise.

The magnificent work of the R.A.F. continued; the Germans were estimated to have lost at least 1500 aircraft between the 10th and 24th May.

During the week ended 12th May the losses of British, allied and neutral shipping amounted to eight vessels, totalling 8955 tons. In the same period five German transports were sunk by British submarines and one by mine, the total German losses in merchant shipping having now equalled those of the Allies. Up to 15th May, 20,768 vessels had been escorted in convoy with the loss of 31, but for the last three weeks no escorted vessel had been sunk.

There were many signs that Italy was on the verge of entering the war, so that tension in the Balkans and Mediterranean was greater than ever. Greece took defensive measures; Turkey remained watchful and prepared.

During the night of the 25th/26th the R.A.F. carried out heavy attacks upon German communications in Belgium and the Rhineland.

26th May.—In Flanders the B.E.F. were not seriously attacked, but assistance was given to the Belgians on the left who succeeded in repulsing a strong German threat.

The French improved their positions on the Somme line and reported that they still held the citadel at Boulogne where the Royal Navy was in action with great effect against the German forces.

The German High Command announced that its concentric attacks in Flanders and Artois "against the hemmed-in enemy armies" had made some progress against a strenuous resistance.

In Norway allied progress was reported North of Narvik.

M. Reynaud, the French Premier, visited London to confer with Mr. Winston Churchill and other members of the War Cabinet.

The Admiralty announced the loss of H.M. destroyer "Wessex" by enemy air attack off the French coast (6 ratings killed, 21 wounded); also of H.M. trawler "Charles Boyce" sunk by enemy mine (commander, one other officer, 13 ratings feared lost).

General Sir E. Ironside succeeded General Sir W. Kirke as C.-in-C. Home Forces, being himself succeeded as Chief of the Imperial General Staff by General Sir John Dill.

At the request of H.M. The King special prayers were offered by all denominations throughout the Empire.

27th May.—Before daylight the R.A.F. attacked the aerodromes at Flushing, Brussels, Antwerp, Venlo and Charleroi, and also the enemy lines of communication in Belgium and Western Germany.

In Flanders the French and Belgians on the flanks of the B.E.F. were violently attacked; British infantry co-operated with French tanks in a successful counter-attack. The French reported a successful British attack near Aire; a withdrawal of their own troops in the Valenciennes region; successful local operations on the Somme; and the repulse with heavy loss of violent German attacks East of the Aisne.

The Germans reported the further progress of their encircling movement, a thrust having been made from Menin towards Ypres; a success was claimed North-East of Lens and Calais was said to have been captured on the previous day.

28th May.—On the night 27th/28th May, the R.A.F. successfully attacked military objectives at Düsseldorf, Duisberg, Dortmund, Hamburg, Bremen and Cologne.

King Leopold, commanding the Belgian armies, surrendered unconditionally to the Germans at 4 a.m., the Belgian forces in Flanders laying down their arms. The King's decision was repudiated by the Belgian Government, who promptly announced that resistance would be continued with the means still available.

Despite the surrender of the Belgians, which exposed their left flank and their communications to Dunkirk, the B.E.F., with the French, continued their resistance.

According to German reports, the Belgians had been pushed back to within 6-7 miles of Thorout and Bruges before the surrender. **North of Valenciennes, German troops broke through the French frontier fortifications on a broad front, capturing Orchies and Douai.** La Bassée, Merville, Hazebrouck and Bourbourg were stated to be in German hands.

The Admiralty announced the loss of H.M. trawlers "Melbourne" (no casualties) and "Cape Passaro" (4 ratings lost), bombed from the air.

Control and management of H.M. Coastguard passed from the Ministry of Shipping to the Admiralty.

Canada announced that she would proceed with the formation of a fourth division.

Allied forces captured the town of Narvik, and the two hamlets Farneset and Fagernäs on this night. (The occupation was completed on the following day.)

29th May.—In Flanders the allied forces in their withdrawal to the coast (Dunkirk) continued to resist the German pressure.

The Germans, having passed Bruges, captured Ostend, and reached Dixmude; Ypres and the Kemmel ridge were captured; the British were holding out in the area Dixmude—Armentières (captured)—Bailleul—Bergues; French resistance had broken down South of Lille (captured); German forces from the West had reached the Belgian frontier East of Cassel.

An R.A.F. aircraft bombed and set on fire a supply ship in the German occupied harbour of Bergen, Norway.

The Minister of Supply (Mr. H. Morrison) announced the constitution of a Tank Board to consider the whole situation as regards production and supply.

Guernsey Parliament (includes Alderney and Sark) approved a Bill for conscription of all men between 18 and 41.

30th May.—**British and French troops were embarked at and near Dunkirk** under the protection of the allied navies and air forces. The fighting withdrawal of the allies in northern Flanders continued. A small British force which had held Calais against repeated attacks of superior enemy forces had been of much

assistance. Other British troops were participating in the operations on the Somme.

The Germans claimed that in Flanders their attacks from the East, South and West had joined hands on the line Poperinghe-Cassel.

In describing the part which was being played by the Royal Navy in the embarkation at Dunkirk **the Admiralty reported the loss of H.M. destroyers "Grafton," "Grenade" and "Wakeful,"** the small transport "Abukir," and a number of small auxiliary craft.

31st May.—During the night 30th/31st, military objectives in North-West Germany were again bombed by the R.A.F., who also attacked with effect the oil storage depots at Rotterdam.

The fighting withdrawal of the Allies to Dunkirk and the embarkation of troops at and near that port continued, the German attacks upon the Furnes-Bergues-Dunkirk area now being hampered by the inundations.

The Admiralty announced the loss of H.M. cruiser "Curlew" off the coast of Norway, as the result of a bombing attack. Four officers and five ratings lost their lives.

The Allied Supreme War Council met in Paris.

During the night 31st May/1st June the British forces in the neighbourhood of Bodö were withdrawn by sea, having achieved their object of delaying the German advance until the capture of Narvik had been completed.

1st June.—R.A.F. operations included the attack of military objectives in Germany, at Hamm and Osnabrück and Rheine. Petrol and oil stores at Rotterdam were again bombed; successful raids were made on the enemy occupied harbours of Willemsoord and Marsdiep (Holland) and on the island of Terschelling.

The allied resistance to German pressure enabled the embarkation of the troops reaching Dunkirk to proceed steadily.

The British detachment in Calais was stated to be still holding out.

Lord Gort handed over his command, by Government order, and arrived in London.

The Germans made extensive air-raids over the Rhone valley, bombing Marseilles and several towns near Lyons. On their return journey two enemy bombers flew over Switzerland and were shot down by the Swiss.

The surrender of the Belgian army placed the allied forces in northern Flanders in a precarious position, only the gallantry and resource of the troops and their leaders averting a complete disaster. The major portion of the French troops engaged about Lille appeared to have fought their way northward into the Dunkirk perimeter, and by the end of the week about three-quarters of the B.E.F. (which seemed to have had nine divisions operating in Flanders), many French and some Belgians had been evacuated from Dunkirk by sea. This very hazardous operation, exposed as it was to German air attack by night and day, had only been possible by the united and devoted efforts of the allied land, sea and air forces working in admirable unison, all ranks of all arms displaying the utmost courage and initiative. The fighting around Dunkirk continued.

A great feature of the operations was the tremendous havoc wrought by the R.A.F., ably supported by the Fleet Air Arm, in almost incessant warfare against the German air forces.

An outstanding achievement of the Royal Navy had been the destruction of docks, bridges, power-houses and shipping by demolition parties at Boulogne; the covering bombardment from seaward caused the enemy heavy loss and enabled the allied evacuation of the port to be carried out successfully.

Special recognition was accorded to units of the Netherlands navy; destroyers, torpedo boats and gunboats had fought gallantly and with good effect at Rotterdam and the Zuyder Zee; two new submarines ran the gauntlet of magnetic mines and reached an English port from Rotterdam.

The capture of Narvik by no means concluded the operations in northern Norway where Germans still held out North of the town and in the mountains to the East. Farther South, nearer Mo, the enemy was still in considerable force and endeavouring to advance.

H.M.S. "Curlew" (a light cruiser of 4200 tons) was the first British cruiser to be lost by enemy action; the loss in destroyers now amounted to seventeen.

During the week ended 19th May, eight British, allied and neutral merchant ships were sunk by enemy action; but the losses of the enemy, in merchant tonnage, now exceeded those of the Allies. Up to 22nd May, 75 millions of merchant tonnage had been safely escorted in convoy by the allied fleets.

By the end of the week it seemed to have become simply a question of when Italy would enter the war.

2nd June.—The R.A.F. and the French Air Force continued their operations by night and day against the communications of the German armies and also military objectives in Germany. Serious damage was caused in the regions of Dortmund, Osnabrück, Homburg and Hamm; the aerodromes at Rotterdam and Wesel were heavily bombed.

Round Dunkirk, where the inundations restricted the advance of the German land forces, enemy action consisted chiefly in the concentrated fire of heavy artillery and the bombing of the coast and the defended perimeter from the air. The embarkations continued.

The Germans reported the capture of Nieuport and Adinkerke, and of Ghyvelde, six miles East of Dunkirk.

The German air-raids upon south-eastern France were repeated, bombs again being dropped near Lyons and also in the Alpes Maritimes. One returning German bomber was shot down over Switzerland, and a number were accounted for by the French.

Nearly 50,000 children were evacuated from the coastal towns of south-eastern England to places regarded as safer from air attack.

3rd June.—Operations round Dunkirk, where the Germans admitted slow progress, continued under the same conditions. Embarkations still proceeded.

A German air attack on Paris caused 906 casualties (civilians, 195 dead, 545 wounded; soldiers, 59 dead, 107 wounded). Twenty-five German bombers were brought down and the French reported the loss of four aircraft and ten more damaged on the ground.

In publishing an account of the naval operations—still proceeding—at Dunkirk during the withdrawal of the allied forces, the **Admiralty announced the loss of H.M. destroyers "Basilisk," "Keith" and "Havant,"** together with 23 "minor war vessels" out of over 170 engaged.

On their return to port Grimsby trawlers reported persistent air attacks by bomb and machine-gun fire. Fourteen vessels were involved, but none was reported lost.

At night the enemy made an air attack upon Le Havre and did considerable damage.

During the night of the 3rd/4th June the last of the allied troops were embarked from Dunkirk which was occupied by

the enemy in the course of the day. The number of men evacuated amounted to over 335,000, but the losses in material were enormous and the casualties of the B.E.F. were reported to be over 30,000.

4th June.—Throughout the night and during this day the R.A.F. attacked military objectives in the Ruhr valley, Rhenish Prussia, and the region of Frankfurt ; petrol stores in Holland and Belgium were set ablaze and aerodromes damaged.

The French Air Force, operating before daylight on the 4th, bombed many military objectives, including an important aircraft factory, in the Frankfurt and Munich areas.

During the night of the 4th/5th June **the R.A.F. and the French Air Force both inflicted very great damage on military objectives, chiefly railways and oil stores, in Germany.** R.A.F. operations extended from Dortmund in the North to Mannheim in the South ; Frankfurt, Düsseldorf, Cologne and Essen were bombed. The French attacked Mannham, Ulm, Ludwigshafen, and Munich, where the Bavarian Aero Engine factory received a second visit ; the Badische Aniline factory was set on fire.

The German air attack on Le Havre was repeated on the night 4th/5th June.

5th June.—At dawn the Germans launched an offensive from the sea to the Laon-Soissons road, very heavy artillery fire supporting massed infantry attacks which were covered by bombardment from the air followed by the advance of tank columns. "On the whole," said the French, "the attacks have been held." **The Germans claimed that by the afternoon the "so-called Weygand line" had been broken** in several places.

On this night the R.A.F. attacked oil depots near Hamburg and near the Kiel canal, also military objectives on Heligoland. Important points on railways were bombed at Wedau, Eschweiler and Rheydt. Another raid was carried out upon the oil tanks at Ghent. The French Air Force made further attacks upon military objectives in the Rhineland.

Apparently in an attempt to attack R.A.F. aerodromes German aircraft dropped bombs in rural districts of Yorkshire, Lincolnshire, Norfolk and Essex during the night. Slight damage was done and six persons received minor injuries.

6th June.—Before daylight a British bomber fouled a barrage balloon cable and crashed in a north-east coast town. Two civilians were killed and three injured ; one of the bomber's crew was killed.

The German offensive in France was pressed with undiminished energy, but still met with uncompromising resistance. Only on the lower Somme, where the enemy penetrated as far as Bresle, and in the Ailette region where he pushed forward to the right bank of the Aisne, did the French concede any ground.

M. Reynaud announced important changes in the French Cabinet, himself taking over from M. Daladier the post of Foreign Minister. **General de Gaulle was appointed to assist M. Reynaud at the War Office**; the War Cabinet was reduced from eleven Ministers to eight.

Italy announced that a 12-mile zone round the coasts of Italy, Albania, and Italian overseas possessions was "dangerous to shipping."

At night the R.A.F. raids on Germany included an oil storage plant at Delmenhorst and a refinery South of Hamburg; railways were bombed at Wedau and South of Aachen where one end of a tunnel collapsed. The oil tanks at Ghent, still burning, were again attacked and fresh fires were caused.

Probably intended to be another attack upon British aerodromes, German aircraft made an extensive night raid over England. Alarms were sounded in parts of twelve counties extending from Hampshire to Durham. A number of high explosive and incendiary bombs were dropped, two minor casualties being caused in a Lincolnshire town; altogether one airman was killed and six other men were injured, material damage being slight. One German bomber crashed in East Suffolk.

7th June.—German air-raids in considerable strength also took place over France and lasted until the morning. No casualties and little damage was reported.

The German offensive in France continued with even greater intensity and a total disregard of loss. A penetration was effected in the region of the upper Bresle; Germans who managed to cross the Aisne East of Soissons were annihilated.

The late Captain B. A. W. Warburton-Lee, in command of the naval forces at the first engagement at Narvik, was awarded the Victoria Cross—the first to be awarded in the War.

Raids upon north-western Germany were again carried out by

the R.A.F. during the night. French naval aircraft bombed factories in the suburbs of Berlin.

Enemy aircraft were reported over nine English counties during the night of the 7th/8th June ; some bombs were dropped, but little material damage was done and no casualties reported. One Heinkel crashed in an East Suffolk village.

8th June.—The Germans put in more than twenty fresh infantry divisions on the front Aumale-Noyon. Some withdrawals were carried out by the French ; **the enemy secured footholds on the South bank of the Aisne** after bitter fighting. From the upper Bresle the German armoured units which had broken through made further progress, their **advanced detachments reaching Forges les Eaux.**

In Norway the Allies were reported to have captured Sildvik tunnel, about ten miles East of Narvik.

The Admiralty announced the loss of the armed merchant cruiser "Carinthia" torpedoed by a German submarine, and subsequently sunk. Two officers and two ratings lost their lives.

Another Admiralty announcement prohibited merchant vessels, if not in convoy, from approaching within three miles of the coasts and ports of the United Kingdom between sunset and sunrise.

The first awards of the Victoria Cross in the R.A.F. were announced : to Flying-Officer D. E. Garland and Sergt. T. Gray, both reported missing.

The great German offensive in France was obviously aimed at the disintegration of the French Armies and the over-running of the country. In spite of very heavy losses the enemy effort persisted for four days with increasing intensity ; yet, despite their inferiority in numbers and material, the French resisted with much gallantry and resource. It was stated that the German armoured units which had penetrated towards Forges les Eaux had not been followed by infantry.

Although British troops were fighting with the French, the chief British part was being played by the R.A.F., both in the actual combat and in the unremitting attacks upon the German communications right back into Germany. These operations, continued by day and night, created great havoc ; the losses in aircraft suffered by the British and French were, as usual, far less than those inflicted upon the enemy.

The successful evacuation of the British and French forces from Dunkirk saved a greater disaster, but the loss of the whole of the

Flanders coast down to the mouth of the Somme constituted a severe reverse. Moreover, the loss of material—Mr. Churchill said “nearly 1000 guns, and all our transport and armoured vehicles that were with the Army in the North”—was very serious, and the French suffered in like degree. The actual embarkation was a triumph over natural difficulties and enemy action: no less than 1400 vessels, British and French, were employed, and the courage, resource, and self-sacrifice of all concerned—airmen, seamen, soldiers and civilian boatmen—was magnificent.

Up to the evacuation of Dunkirk the Germans were estimated to have lost between 400,000 and 500,000 men out of 2,500,000 which had been thrown into the struggle in Holland, Belgium and Northern France. Ten armoured divisions were each reckoned to have lost from one-third to one-half of their strength. These figures could not, of course, be substantiated, nor was it known to what extent the enemy had exaggerated the number of British, French and Belgians captured by him.

Some details of the blocking of Zeebrugge by the Royal Navy were made public. An attempt was made on the night of 25th May to sink two ships filled with concrete in the lock entrance; but, in a thick haze, the vessels grounded at the side of the channel. Twenty-four hours later another effort was rewarded with complete success; after many difficulties had been overcome “the canal was well and truly blocked.” All these operations were conducted under heavy attacks from the air.

Italy continued her preparations and was obviously choosing her moment to enter the war.

During the week ended 26th May, ten British merchant vessels were lost by enemy action, but their total tonnage only amounted to 10,913. Two of them were hospital ships sunk by deliberate air attack whilst in harbour at Dieppe. Four Allied merchant ships (totalling 13,000 tons) and four neutrals (21,313 tons) were sunk.

Up to 29th May, 22,171 ships had been convoyed with a loss of 31. No escorted ship was sunk during the week ended on this date.

9th June.—During the night of the 8th/9th, R.A.F. bombers successfully attacked railway centres in Germany, near Essen, Düren, and Euskirchen. Among other objectives raided was an aerodrome at Eindhoven (Holland) and the oil-storage tanks at Ghent.

The German offensive spread eastward as far as the Argonne, the French repulsing a heavy thrust on this flank,

although the enemy crossed the Aisne at two points. Later in the day he made powerful efforts South of the Aisne, near Soissons, and East of that town. From Forges les Eaux, **German armoured troops advanced towards Rouen** and "some reconnaissance detachments" arrived on the Seine in that vicinity.

German aircraft raided the suburbs of Paris.

Over Switzerland six German aircraft were reported to have attacked and shot down a Swiss observation machine; also, in other encounters, one Swiss and two German aircraft were forced down.

German motor torpedo-boats made an abortive attack upon a British convoy.

At night the R.A.F. attacked German railway centres at Distol, North-East of Aachen, Rheydt and Homburg.

10th June.—The French Armies were subjected to still greater pressure, **the Germans reaching the lower Seine** (South-East of Rouen) at several points, some troops crossing the river; South of Soissons the enemy attacked towards the Ourcq and, by the Vesle valley, towards Fismes; heavy attacks in Champagne and East of the Aisne made little impression upon the French defence.

Mr. Winston Churchill informed M. Reynaud that Great Britain was assisting France with all available means by land, sea and air. Fresh British forces had arrived in France and more were following.

The French Government removed from Paris and was established in Tours.

Great Britain announced that "with the foreknowledge and understanding of the King of Norway and the Norwegian Government" **the British and French troops had been withdrawn from Northern Norway**; a portion of the Norwegian armed forces had also been withdrawn, to be reformed for action elsewhere. A similar announcement was made in a proclamation by King Haakon and his Government, which stated that the fight for independence would be continued outside the country. King Haakon and the Crown Prince Olaf arrived in London at night.

The Admiralty announced that, following the naval operations in connection with the withdrawal of our forces from Norway, **the loss of H.M. aircraft-carrier "Glorious," the transport "Orama," and the tanker "Oil-pioneer" must now be presumed**; it was known that the "Orama" had no troops on

board. Also H.M. destroyers "Acasta" and "Ardent" were presumed to have been sunk.

In the evening, **Italy declared war on Great Britain and France.** Signor Mussolini solemnly declared that he had no intention of dragging into the conflict Switzerland, Yugo-Slavia, Turkey, Egypt, and Greece.

At Gibraltar the crews of six Italian ships attempted to scuttle their vessels, but prompt action was taken by British naval parties. Most of the ships were beached successfully, and one remained afloat undamaged.

M. Reynaud appealed to President Roosevelt for material aid of every description except troops.

President Roosevelt had, meanwhile, condemned Italy's action and promised that the U.S.A. would put her material resources at the disposal of the Allies.

At night the R.A.F. again raided military objectives in western Germany. The French attacked aerodromes at Mannheim, Neustadt and Frankfurt-on-Main, also the smelting works at Völklingen; French naval aircraft bombed and set on fire the Heinkel works near Rastock.

11th June.—The fighting in France, where it seemed that the enemy was seeking a decision at all costs, continued with increasing violence. The Germans were making strenuous efforts to cross the Seine between Rouen and Vernon; South of Soissons the French had carried out an orderly withdrawal and established their defence along the Marne; farther East the struggle involved Reims, which the enemy was trying to envelope from the West and South-West, whilst the battle also continued in Champagne. The French repulsed all attacks in the Argonne.

Paris was placed under military command and every measure taken for its defence. The evacuation of surplus population continued; the newspapers published their last edition before removing; the Bourse closed, preparatory to re-opening elsewhere.

The R.A.F. bombed Italian aerodromes in East Libya and Eritrea (near Asmara) with considerable success, destroying aircraft on the ground, bomb dumps and petrol stores. Three machines did not return.

Heavy bombers of the South African Air Force attacked Moyale and vicinity in Abyssinia with conspicuous success. All the aircraft returned safely.

Italian aircraft carried out a series of raids on Malta ; casualties amounted to 30 civilians killed, and 30 wounded ; and 7 soldiers wounded. One enemy aeroplane was destroyed.

The Admiralty announced that certain areas of the Mediterranean were dangerous to shipping on account of mines ; these areas enclosed or partially enclosed the principal ports in Libya ; the East coast of Sicily, the "heel" of Italy and the Albanian coast ; the Dodecanese ; and also the Gulf of Venice.

Following Italy's entry into the war Italian ships were seized in South African, Australian and Canadian ports, and at Haifa.

The R.A.F. and French Air Force delivered their nightly attacks against military objectives in Germany.

12th June.—The German onslaught in France continued with undiminished fury. Between the sea and the Oise the French were heavily engaged with the enemy who had crossed the Seine between Rouen and Vernon, whilst German detachments were also pushing towards Le Havre ; another German thrust was making headway between the Oise and the Ourcq, and the passage of the Marne had been effected near Chateau Thierry ; the position round Reims was critical ; only between the Aisne and the Meuse had the German attacks died down.

According to German reports, the invaders were "standing on the Oise" only 12½ miles North-West of Paris. Reims had been captured.

The R.A.F. and Fleet Air Arm carried out successful attacks upon Boulogne where German motor torpedo boats and military objectives on shore were damaged or destroyed.

Mr. Churchill who had crossed to France on 11th June with Mr. Eden (Secretary of State for War) and Sir John Dill (C.I.G.S.) returned to London after a long conference with M. Reynaud, Marshal Pétain and General Weygand.

Operating from Great Britain, the R.A.F. bombed military objectives at Turin and Genoa ; **bombers of the Middle East Command attacked the naval base of Tobruk (Libya) setting the coast defence ship "San Giorgio" (9000 tons) on fire and damaging two submarines ;** the South African Air Force again bombed military objectives in Abyssinia.

A skirmish in which British light tanks were used took place at night on the Libyan frontier, the British capturing 2 officers, 60 men, and 2 machine guns. The remainder of the Italians fled.

A blockade of Italy was proclaimed specifying the articles to be treated as contraband of war.

An Italian liner was reported to have been scuttled by her crew when intercepted by an Australian armed merchant ship in mid-Pacific.

The Italians reported the laying of a minefield around Sicily, "thereby cutting the Mediterranean in half." They were said to have blown up the frontier bridge at Ventimiglia (Riviera).

The Polish submarine "Orzel," long overdue from patrol, was presumed lost.

Many bombs were dropped over Switzerland by unidentified aircraft causing damage and a number of casualties, some in Geneva.

It was reported from Washington that the total number of U.S.A. Army and Navy aircraft "now turned over for sale to the Allies" amounted to 263.

13th June.—**The Germans**—estimated by the French at 100 divisions between the sea and the Meuse—made further progress towards Paris: South of the lower Seine they advanced towards Evreux; they pressed forward South of Senlis; and they **crossed the Marne**, from Chateau Thierry eastward, on a wide front. Other enemy forces, passing East of Reims, pushed southward towards Chalons sur Marne which the enemy claimed to have occupied.

Paris was declared an open town, having been evacuated by all French forces.

M. Reynaud addressed another appeal for help to President Roosevelt. Great Britain pledged herself to continue to give every assistance in her power.

Part of a British division, with certain French troops, operating in Normandy near the coast was surrounded by greatly superior forces and obliged to surrender near St. Valéry. The remainder of the division was successfully embarked under great difficulties.

British reinforcements were stated to have entered the battle South of the Seine.

In the early morning the R.A.F. bombed an enemy aerodrome at Vaernes (Norway) and supply ships near Bergen. **The Fleet Air Arm attacked Trondhjem where the German battleship "Scharnhorst" was damaged by a heavy bomb.**

H.M. armed merchant cruiser "Scotstoun" was sunk by a German submarine with the loss of 2 officers and 4 ratings.

The R.A.F. attacked the Italian base at Assab on the Red Sea and Dire-dawa in Abyssinia, doing considerable damage; the South African Air Force carried out "offensive reconnaissance operations" in southern Abyssinia.

Italian aircraft twice attacked British Moyale, on the Kenya border, and also Wajir in Jubaland province. The Italians claimed that Bizerta (Tunis) and Toulon had been bombed with effect from the air.

The Egyptian Premier declared that Egypt's attitude would be "basically defensive," but if her soil was bombed or Egyptian casualties caused she would declare war on Italy.

Spain proclaimed her "non-belligerency."

During the usual night operations of the R.A.F. the docks at Boulogne were heavily bombed, oil tanks at Dunkirk set on fire, and damage done to aerodromes at Flushing and Ostend.

14th June.—In the face of German pressure the **French forces covering Paris retreated on both sides of the city.** East of Paris the German pressure was towards Romilly (on the upper Seine) and St. Dizier (Marne). Violent German attacks West of the Saar (Maginot Line) were repulsed.

The Germans entered Paris. They claimed the "complete collapse of the whole French front between the Channel and Montmédy" (western end of the Maginot Line); the capture of Le Havre and of Montmédy itself.

On the Alpine Franco-Italian frontier the Italians claimed a slight success.

The French Government moved from Tours to Bordeaux.

The Premiers of Australia, Canada and South Africa assured M. Reynaud of their resolve to support Great Britain in giving France every help possible.

R.A.F. reconnaissances and flights continued over eastern Libya where Fort Capuzzo was bombed; Assab (Red Sea) was again attacked and much damage done. The South African Air Force bombed military camps in southern Abyssinia. French naval aircraft bombed and set on fire oil tanks near Venice and dropped pamphlets on Rome.

Italian aircraft raided Aden where they were driven off with loss; two small Sudanese towns; Malta where two British soldiers were killed and one wounded; and south-eastern France.

In the Mediterranean units of the allied fleets continued mine-

sweeping operations and searched for enemy warships. Two Italian submarines, one slightly damaged, were reported to have sought safety in Ceuta and Algeciras respectively. French warships shelled industrial plants and the railway on the Italian (Riviera) coast.

British troops with R.A.F. co-operation attacked the Italian forts near the Libyan frontier. Fort Capuzzo was captured and Fort Maddalena surrendered. Many prisoners were taken.

A South African mobile field force was announced to be serving with the British East African forces.

Spanish troops were reported to have entered into occupation of the international and demilitarized Tangier zone, by arrangement with the British and French authorities.

At night patrols of the K.A.R. raided posts at Italian Moyale (Kenya-Abyssinia frontier) and found them deserted. A quantity of arms and equipment was found.

15th June.—During the night 14th/15th, the R.A.F. bombed military objectives in Germany: Düren, Rheydt, Essen, Cologne, Bonn, and the region of Baden.

In France the principal German drive was still south-eastward between Paris and the Maginot Line. Advanced detachments of the enemy approached Chaumont. **The Germans reported the capture of Verdun, progress south-eastward from the Argonne, and the rupture of the Maginot Line South of Saarbrücken.**

On France's eastern (Alpine) frontier the Italians claimed to have taken up positions on the French side.

President Roosevelt cabled his reply to M. Reynaud's appeal: material help would be sent to France in ever-increasing quantities so long as she continued the struggle; military aid was a question for Congress.

The R.A.F. destroyed large ammunition dumps on the quay at Bergen (Norway).

On the Abyssinian border the R.A.F. carried out several raids and inflicted damage on aerodromes and frontier posts.

Italian aircraft raided Sollum (Libyan-Egyptian border), where casualties were suffered by the Egyptian Army; an aerodrome at Wajir (N. Kenya); and Malta.

Egypt informed Italy that she abode by her alliance with Great Britain and, if attacked, would enter the war.

The Admiralty announced the loss of H.M. light cruiser

"Calypso," sunk by an Italian submarine in the Mediterranean, with the loss of one officer and 38 ratings; also of H.M. trawlers **"Myrtle"** (no survivors) and **"Ocean Sunlight"** (8 missing) sunk by enemy mines in home waters.

Soviet troops marched into Lithuania to occupy Kaunas, the capital, Vilna and three other towns. This was the result of a Russian ultimatum which also insisted upon the formation of a new Government friendly to Russia whose grievance was that Lithuania had "kidnapped and murdered Soviet soldiers," and favoured a military pact with Estonia and Latvia.

By the end of the week France was *in extremis*. Outnumbered and vastly inferior in armament, her armies were unable to stop the German drive past Paris to the South-East, a movement which threatened to reach the Swiss frontier and cut off the garrisons of the Maginot Line. M. Réynaud's appeal to President Roosevelt could hardly affect the issue; the reply was all that could be expected, for the U.S.A. was already producing tanks, lorries and aeroplanes for the Allies, and even drawing upon the equipment of her own Army and Navy to supply them.

So far the entry of Italy, obviously under German tutelage, into the war had produced little effect. In the first four days of hostilities she had lost over 210,000 tons of merchant shipping.

The allied withdrawal from Norway was doubtless well advised, considering the larger issues which were at stake. Our loss of ships in Norwegian waters, before the withdrawal was completed, occurred in circumstances not yet explained; according to German reports the battleships **"Gneisenau"** and **"Scharnhorst"** took part in the action or actions. H.M. aircraft-carrier **"Glorious"** was a sister ship to the **"Courageous"** torpedoed and sunk last September. The destroyers **"Acasta"** and **"Ardent,"** both completed in 1930, each had a normal complement of 145. The **"Orama"** was a former Orient liner.

During the week ended 2nd June, merchant shipping losses, due to enemy action, were heavy; they amounted to 11 British, 4 allied and 3 neutral—a total tonnage of 80,551 (54,715 British). To this had to be added 10 ships (total tonnage 42,509) sunk in Norwegian waters during the period 4th March–28th April and not previously reported. One ship was lost in convoy during the week ended 5th June.

16th June.—A French air-raid was carried out on Tripoli on the night 15th/16th.

The German main thrust in France continued to develop south-eastward, towards Dijon and the Saone; West of Paris the

fighting was in the region of Laigle and La Ferté Vidame. The German High Command reported that the line of retreat of the French withdrawing from the Saar and the Rhine had been cut ; on the Saar the Maginot Line had been pierced ; the upper Rhine, near Colmar, had been crossed on a wide front.

The War Office announced that British troops were still fighting in Normandy in co-operation with the French.

The French Cabinet considered President Roosevelt's reply to M. Reynaud's appeal (see 15th June). Later in the day it **was reconstructed with Marshal Pétain as Premier in place of M. Reynaud and General Weygand as Minister of Defence.**

The British Government made France the offer of an Act of Union.

In the early hours of the morning Tobruk (Libya) was again heavily raided by the R.A.F. who also attacked two Libyan frontier posts, and aerodromes and camps near the Abyssinian border. The South African A.F. and South Rhodesian A.F. raided air and military bases at Javello and Mega (Abyssinia).

An Italian air attack on Mersa Matruh (Western Egypt) resulted in the deaths of a number of Egyptian civilians.

The Italians claimed to have done great damage in air raids on southern France (aerodromes at Caunet des Maures and Cuers-Pierrefeu), and Corsica ; also on Malta, and on Tunis, Sudan and Kenya territory. They stated that allied aircraft had bombed Savona, Palermo and Cagliari (Sardinia).

The Admiralty announced that since hostilities began in the Mediterranean four Italian submarines had been destroyed.

At night, in a skirmish South-East of Sollum (Libyan frontier) the British captured 12 Italian tanks, six guns, and a considerable number of prisoners.

17th June.—During the night of the 16th/17th, **Marshal Pétain opened peace negotiations with Germany.** In the morning he revealed his action to the French nation in a broadcast speech. The German High Command announced that Herr Hitler would meet Signor Mussolini to discuss the peace terms to be offered to France. Mr. Winston Churchill announced that, if need be, the British Empire would continue the war alone. M. Baudouin, the new French Foreign Minister, announced in the evening that France would never accept dishonourable peace terms.

Meanwhile the fighting in France had continued. German advanced troops had pushed into the Jura : the Germans reported

that they had reached the Swiss frontier South of Besançon ; enlarged the breaches in the Maginot Line ; advanced towards the Vosges from the western bank of the Rhine ; and developed their thrust South-West of Paris.

Great Britain instructed all Dutch, Polish and Norwegian ships at sea and bound for French ports to make their way to British ports.

In Eritrea and Italian Somaliland the R.A.F. and South African A.F. bombed Massawa, Bardera, and Neghelli.

Italian aircraft were reported to have bombed the French coast (Toulon-Fréjus), Malta, and ports on the western Egypt frontier with little effect. The Italians claimed to have attacked from the air military objectives in the Upper Sudan.

Near the Libyan-Egyptian frontier, British forces were in action against the Italians, capturing light tanks, lorries, four field guns and over 250 prisoners. First contact was made on the Tunisian-Libyan frontier between French and Italian troops.

Soviet troops occupied Latvia and Estonia, new Governments being formed in both countries on the demand of Russia who stated she could not permit a military pact between the three Baltic states (see 15th June).

At night French aircraft raided Cagliari (Sardinia) with good results.

18th June.—On the night of the 17th/18th, the R.A.F. carried out extensive bombing raids in Germany, military objectives being attacked with good results at Gelsenkirchen, Homburg, Wanne, Eickel, Essen, Dollbergen, Hamburg, Aachen, Duisburg, Rheydt, Cologne, and Coblenz. A surprise attack was also made on the Amsterdam airport at Schipol.

The Germans made progress in western France, reaching Cherbourg and Rennes ; they also reported the occupation of Le Creusot armament centre and the capture of Belfort and Colmar. The French High Command reminded " all French and British combatants on land, at sea, and in the air " that no armistice was yet in force and that arms had not been laid down. Most of the B.E.F. had, by this date, been withdrawn from the battle and brought back to England. Some portions were still fighting and the R.A.F. attacked German columns in the Cherbourg area.

It was announced that the French Government had approached Italy through the Vatican with a view to negotiating an honourable peace. Herr Hitler and Signor

Mussolini met in Munich and agreed upon the attitude of their respective governments towards the French request for an armistice.

Mr. Winston Churchill spoke on "The Defence of Britain." Special instructions were issued to civilians in case of invasion.

The Canadian Premier announced that Canadian troops had been landed in Iceland ; also that Canada was "extending military defensive powers" over the French possessions in the West Indies.

The R.A.F. bombed a German destroyer off the Frisian islands.

Raids by British bombers were reported from northern Italy, Milan-Monza-Sesto Calende-Varese being the objectives.

Italian aircraft raided Malta.

At dawn (18th) the K.A.R., supported by S. Rhodesian aircraft, carried out a successful raid on the Italian Somaliland frontier.

During the night, the R.A.F. bombed aerodromes, fuel depots, blast-furnaces, marshalling yards and trains in Germany, at Hamburg, Bremen, Rheydt, Cologne, Düsseldorf, Hanover, and Frankfurt.

German aircraft, estimated at 100 in number, crossed the English coast from Yorkshire to Kent at night. Several R.A.F. aerodromes were attacked without success, but one bomb hit a pipe-line leading to an oil wharf in the Thames estuary ; the fire was soon extinguished. Casualties reported : 12 killed, 30 injured, eight houses in a Cambridgeshire town being demolished and damage done in several villages. Seven enemy aircraft were shot down.

19th June.—Italy reported that air-raids had been carried out during the night on Liguria and Piedmont.

The German advance in France was nearing Nantes in the West ; the river Cher (South of Orléans) ; and Lyons. The enemy captured Cherbourg, reached Rennes and passed southward through Le Mans. Nancy was taken. French resistance continued in the Maginot Line about Thionville. Later, the capture of Lunéville and Toul was reported ; also Strasbourg. French and Polish troops crossed the Swiss frontier and were interned.

The French Government received from Hitler-Mussolini a demand for the despatch of plenipotentiaries to receive armistice

conditions, but declared that there would be no unconditional surrender.

An aircraft of the R.A.F. Coastal Command successfully bombed the enemy seaplane base at Helder (Holland). The R.A.F. were reported to have sunk an Italian submarine in the Mediterranean. Near Buqbuq (western Egypt) the R.A.F. engaged Italian aircraft, shooting down three and seriously damaging two others for the loss of one fighter. Raids on aerodromes and military posts in Italian East Africa were successfully carried out by the R.A.F., South African A.F., and South Rhodesian A.F.

The British liner "Niagara," lost in the Tasman Sea, was reported to have been sunk by a mine.

At night the R.A.F. carried out extensive raids on Germany, attacking military objectives at or near Lunen, Hamm, Bielefeld, Münster, Düren, Schwerte, Euskirchen, München-Gladbach, Hamborn, Emmerich, Hamburg, Brunsbüttel and Nordeney.

The Fleet Air Arm, co-operating with the Coastal Command R.A.F., successfully attacked stores and aerodromes at Ijmuiden, Scheveningen and Borkum, and a bridge at Texel.

During the night 19th/20th more than 100 enemy aircraft attacked Britain from the South coast to Scotland. The material damage caused was not serious; casualties were reported to be eight dead and about 60 injured. Three towns on the North-East coast of England were bombed, scattered bombs fell in Lincolnshire, the South of England and South Wales; also in a Lancashire town. Three of the raiders were shot down and two others severely damaged.

20th June.—In France the Germans were now advancing South of the line Nantes-Bourges-Lyons, Lyons having been occupied. The enemy reported the capture of Brest and the isolation of French forces in northern Lorraine and in the Vosges; continued resistance about Thionville; and an advance eastward from Belfort joining hands with that from the upper Rhine.

The French plenipotentiaries left Bordeaux to receive the German armistice terms. In a special broadcast **Marshal Petain explained the reasons for the defeat of France.**

The R.A.F. raided the Rouen aerodrome twice and caused great damage to enemy aircraft; similar success was obtained in an attack upon an Amsterdam aerodrome.

The Admiralty announced the loss of H.M. auxiliary cruiser

"Andania," torpedoed by submarine (two ratings injured); and presumed the loss of H.M. trawler "Juniper" overdue from Norwegian waters.

The Italian base at Diredawa (Abyssinia) was twice attacked successfully by the R.A.F., who also bombed two Italian bases in Libya.

Italian reports spoke of the bombing of Bizerta, Ajaccio, Bonifacio and Porto Vecchio, and also of Aden and Port Sudan.

The French reported the sinking of an enemy submarine in Italian waters.

A British advance from the Sudan across the border of Eritrea resulted in the rout, with considerable loss, of an Italian (native) battalion.

During the night of 20th/21st, the R.A.F. attacked military objectives in Germany: Essen-Frintrop, Osterfeld, Hamm, and Ludwigshafen-Oppau.

21st June.—Italian air-raids were made at night on Bizerta, Malta, and Mersa Matruh.

In France the Germans thrust towards Clermont Ferrand in Auvergne; French forces in the Vosges, although surrounded, continued their resistance. The enemy reported a further advance southward between the Loire estuary and the Rhone; and continued fighting in the Maginot Line (Alsace-Lorraine). **The French delegates were handed the German terms for an armistice**; the meeting was held in the forest of Compiègne where the 1918 armistice had been signed.

During a daylight reconnaissance the R.A.F. bombed two aerodromes and an oil refinery in North-West Germany; in a raid upon Willemsoord, a German-occupied harbour on the Dutch coast, two ships were sunk, an oil storage depot set on fire, and other damage done; bombers of the Fleet Air Arm wrecked a German gun position near Calais.

In Africa, the R.A.F. raided Tobruk (Libya), severely damaging a large warship, and El Adem and El Guddi were again raided with success; another successful raid was carried out on Macaaca (Eritrea).

Italian aircraft raided France (Marseilles-Riviera) and Malta.

The Air Ministry made known some details of the persistent raids carried out by the R.A.F. on northern Italy since the out-

break of hostilities (11th June). The chief objectives were industrial establishments at Genoa and Turin.

The arrival in England was reported of the fourth contingent of Canadian troops and units of the Royal Canadian Air Force.

At night the R.A.F. bombed aircraft factories and storage buildings at Bremen, Kassel, Rothenburg, and Göttingen.

Enemy aircraft again raided England at night, dropping bombs sporadically in the eastern counties. Three civilians were killed and three injured; little material damage was done.

22nd June.—The German advance continued South of the lower Loire and in the Rhone valley; the enemy claimed the capture of St. Malo and Lorient; also success against the French forces still holding out in Alsace-Lorraine and in the Vosges.

The R.A.F. were active over France, bombing, with good effect, the enemy-occupied aerodrome at Merville.

On the Alpine front the French reported that Italian attacks had been held.

At Compiègne the French delegates signed the German terms for an armistice.

An R.A.F. aircraft sank a German supply ship in the North Sea.

The Admiralty and Air Ministry announced that the **German battleship "Scharnhorst,"** heavily escorted, had been **attacked and severely damaged in Norwegian waters.** H.M. submarine "Clyde" obtained one hit with a torpedo, and a Fleet Air Arm torpedo-bomber hit a German destroyer; an hour later an R.A.F. attack scored three direct hits on the "Scharnhorst," despite very heavy anti-aircraft fire and the opposition of at least 50 German fighters, of which two at least were shot down. Five of our aircraft failed to return.

The Italians reported that Turin and Leghorn had been bombed by aircraft. Italian aircraft bombed Alexandria where the allied fleet suffered no damage, but a considerable number of civilians were killed, including two Italians; Jibuti (French Somaliland) was bombed by the enemy with little effect; an Italian bomber encountered off Malta was shot down. Italy reported that Mersa Matruh (western Egypt), Port Sudan, and posts on the Kenya border had been bombed by her aircraft.

The Admiralty announced that H.M. trawler "Moonstone"

had engaged an Italian submarine in the Gulf of Aden and forced her to surrender.

A British force was reported to have made a successful raid over the North Kenya border; Italian barracks, with stores and ammunition, were destroyed, and an enemy counter-attack repulsed.

Two German aircraft were received by anti-aircraft fire over a town in South-East England and eventually driven off by R.A.F. fighters. No bombs were dropped on land.

The reconstruction of the French Cabinet with Marshal Pétain as Premier marked the ascendancy of the defeatist element and the betrayal of France. It was realized throughout the world that Germany's terms—not immediately made known—involved the utter subjection of our Ally. Mr. Churchill's announcement that Great Britain was fully prepared to continue the war alone brought instant approval from all parts of the British Commonwealth of Nations and a general determination to intensify the war effort. The French contracts for American armaments were taken over by Great Britain, and the U.S.A. took steps to "freeze" French credits and capital in that country.

During the week the B.E.F. and the R.A.F. were completely withdrawn from France, although British air activity, conducted now exclusively from home bases, continued to be directed against military objectives in German occupied Holland, Belgium and France, and on German territory.

It was hoped that the French Colonial Empire would continue the struggle. The Governor-General of Algeria expressed such an intention to the Bordeaux Government on the 20th June; from London, General de Gaulle, late Under-Secretary to the Ministry of National Defence in M. Reynaud's Government, made broadcast appeals for all Frenchmen who had reached British soil to rally round him.

Italy had little achievement to her credit in the Mediterranean area either on the sea and land, or in the air. No large operations had been undertaken by either side, but Italian armament works were effectively attacked from the air and the R.A.F. (with units of the South African and South Rhodesian Air Forces) inflicted much damage on military objectives in the Italian African possessions. On the Libyan frontier the British land forces proved their superiority.

The defeat of France created great tension in the Balkans. The position of the French in Syria was of vital interest to Turkey who was also doubtful of Russia's intentions. Italy was reported to have massed large forces on the Yugo-Slavian frontier.

During the week ended 9th June, 9 British merchant ships (41,536 tons) were lost by enemy action, together with 2 allied (952 tons) and 2 neutral ships (4472 tons). To these figures must be added some 25,000 tons of allied shipping lost off the French coast during the evacuations, 27th May-10th June: a moderate total considering the hazardous nature of the operations. No loss occurred among the 1697 ships escorted in convoy during the week ended 12th June.

Faithfully following the German practice, Italian aircraft attacked unarmed neutral merchant vessels, sinking a Swedish but failing to sink a Greek ship.

The German air-raids on England, perhaps undertaken as rehearsals for a bigger offensive to come, may also have been intended to hearten the German people who could not be kept altogether in ignorance of the R.A.F. attacks upon German soil. In their avowed intention of destroying British aerodromes the enemy raids were a signal failure.

23rd June.—Pushing forward through south-western France the Germans reported that they had reached La Rochelle and had occupied St. Nazaire. The main French forces in Alsace-Lorraine were said to have surrendered. In the East the enemy crossed the Rhone South-West of Geneva. On the Alpine front the Italian attempts to advance met with small success. The conditions of the armistice with Germany—not to come into force until after France had concluded an armistice with Italy—were made public: German area of occupation to comprise the whole Atlantic seaboard and northern and central France to the line Geneva-Dole-Macon-Bourges-Tours; French naval, military and air forces to be demobilized and disarmed; all armaments, defences, etc., to be handed over; no Frenchman to serve against Germany in the service of other Powers.

The French delegates arrived in Rome from Compiègne to receive the Italian conditions for an armistice.

General de Gaulle in London announced the formation of a National Committee to organize French effort outside France for a continuation of the struggle.

Mr. Winston Churchill deplored the action of the Bordeaux Government in accepting the terms of the armistice and in the name of His Majesty's Government called upon "all Frenchmen outside the power of the enemy" to help in bringing the war to a victorious conclusion.

The R.A.F. carried out daylight raids upon aerodromes and railway junctions in Holland and Germany. Military objectives in Eritrea and Abyssinia were reported to have been bombed by the R.A.F. ; the French Air Force had attacked centres in Libya. Heavy raids were made on Malta by the Italians on this day, but little damage was done and two Italian aircraft were shot down. Italy reported that Trapani (Sicily) had been bombed and, on this day, Palermo.

The Admiralty announced that **an Italian submarine** had been **destroyed** by "light forces operating under the command of the C.-in-C. East Indies."

From British Somaliland two raids by land forces over the Abyssinian border were reported to have met with little resistance. One Italian post, with its water tanks, was destroyed.

At night the R.A.F. attacked munition factories and railway centres in Mecklenburg, the Ruhr, and the Rhineland, doing heavy damage.

24th June.—In France the Germans had reached the mouth of the Gironde, occupied Angoulême and arrived at Aix les Bains. From South-East of Lyons, the enemy advance was towards Grenoble and Chambéry. On the Alpine frontier the Italians claimed the rupture of the French defensive system at six points from South of Chambéry southward to the sea. This success was categorically denied by the French who reported that their defences were intact and that the western portion of Menton, in advance of their main positions, had been recaptured. **The armistice between France and Italy was signed in Rome.**

In a series of daylight raids, R.A.F. bombers attacked German aerodromes at Eindhoven, Amsterdam and Rotterdam.

The Admiralty announced that H.M. yacht "Campeador V" had been sunk by an enemy mine (4 officers and 16 ratings missing).

The R.A.F. carried out bombing raids in the Western Desert (Libyan frontier), Eritrea and Abyssinia, with marked success ; the Italians reported that their aircraft had attacked Mersa Matruh and Sidi Barrani (Egyptian frontier), Jibuti, Berbera and Kenya.

The **destruction of an Italian submarine** by British naval forces East of Suez was announced by the Admiralty ; the escort vessel "Pathan" of the Royal Indian Navy was reported lost by enemy action (casualties 3 officers, 10 ratings).

Japan requested Great Britain to take immediate steps to stop

the supply of war material to China through Burma and Hong Kong.

Moscow announced that Russia had resumed diplomatic relations with Yugo-Slavia.

At night the R.A.F. bombed the aerodromes at Amsterdam, De Kooy, Mulheim and Kassel, and the naval base at Helder; the regions of Dortmund, Kassel, and Bremen, aircraft factories being the chief objectives; and the Dortmund-Ems canal and railway centres between the Ruhr and the Dutch frontier.

25th June.—German aircraft raided England again on this night, bombs being dropped in the eastern counties, the midlands, and in the South-West. Civilian casualties amounted to 5 killed and about 20 wounded.

In accordance with the armistice concluded between France and Germany and France and Italy, **hostilities in France terminated at 12.35 a.m.** (British "summer" time). The **terms of the French armistice with Italy** were made known: France to demilitarize all French frontiers adjoining Libya, also the coast of French Somaliland; Italy to have full rights in the port of Jibuti and on the French section of the Addis Ababa-Jibuti railway; French naval bases in the Mediterranean to be demilitarized. As regards the disarmament and demobilization of the French forces, etc., the terms were mainly a repetition of those insisted upon by Germany.

General Nogués, High Commissioner and Commander-in-Chief in Morocco declared that his command would continue to defend Moroccan territory.

Nine Spitfire aircraft shot down three Messerschmitt fighters in a combat with 17 over northern France. Three more of the enemy were badly damaged and several others were hit. No British machine was lost. **In co-operation with the R.A.F., British naval and military forces raided the French Channel coast at several points with success.**

The Italians reported British air-raids on Tripoli, Cagliari (Sardinia) and Palermo.

A successful patrol encounter with Italian native troops was reported to have occurred near Lake Rudolf (Kenya frontier).

At night the R.A.F. attacked military objectives in Germany and Holland: at Arnhem and Borkum; Lingen, Hamm and Dorsten (North of the Ruhr); Osterfeld and Mannheim in the Ruhr; Bremen and Cologne; and at Heligoland.

At night, also, enemy aircraft raided Great Britain. Four people were killed and about 13 injured ; little damage was done. Three of the German bombers were shot down by R.A.F. fighters and two by A.A. gunfire.

26th June.—The R.A.F. made daylight raids into Germany, bombing an oil plant at Gelsenkirchen and railway sidings at Soest. A new German aerodrome at Bomoen, near Bergen, was left in flames after a raid by the R.A.F.

The British blockade was extended to the German-occupied French coast, vessels for the French Mediterranean ports having to pass the contraband control at Gibraltar.

M. Corbin, French ambassador in London, resigned.

Malta was attacked repeatedly by Italian aircraft, 23 civilians being killed and many injured.

The R.A.F. carried out a number of successful raids on aerodromes and petrol dumps in Eritrea.

The Italians announced that their naval forces had bombarded Sollum.

British patrol activity was reported on the (eastern) Libyan frontier.

Russia demanded of Rumania immediate satisfaction of the Russian claims to Bessarabia and northern Bukovina.

At night the R.A.F. attacked German aerodromes at Dortmund, Bonn, Hangorf, and Langenhagen ; an oil refinery at Cologne, and an explosives factory at Ludwigshafen ; and railway centres at Osnabrück, Rheydt, Hamm and Soest. In Holland seaplane bases, aerodromes, docks, lock gates and bridges were bombed.

27th June.—Another night raid on Britain caused 16 casualties and little damage ; three enemy aircraft were shot down.

Throughout the day the R.A.F. carried out offensive reconnaissances over the Dutch and Scandinavian coasts and French and German territory. Objectives successfully attacked included an ammunition store at Willemsoord, the seaplane bases at Helder and Texel, and oil refineries at Hanover and Bremen.

Italian aircraft again raided Malta.

In the Mediterranean, British naval "light forces" engaged three Italian destroyers and sank one.

A military police post on the Abyssinia-British Somaliland

border was reported to have had a successful engagement with a much stronger Italian detachment ; British patrols from Kenya were stated to have penetrated 20 miles into Italian Somaliland without encountering opposition.

Russia refused a Rumanian request for a discussion concerning Bessarabia and northern Bukovina.

Continuing their operations without pause the R.A.F. carried out night attacks upon military objectives in Denmark and North Germany : the regions visited included the Ruhr (Dortmund-Ems canal, etc.) and Nyborg island West of Copenhagen.

A German air-raid on Great Britain on this night covered a wide area, but did very little damage. Three civilians were injured.
28th June.—The British Government recognized General de Gaulle as leader of the continued French resistance. General de Gaulle, broadcasting from London, stated that French volunteer land, sea and air forces would be formed.

The Admiralty announced that H.M. submarine "Tetrarch" had sunk a heavily laden German transport in Norwegian waters.

The Canadian destroyer "Fraser" was reported lost "in a collision in face of the enemy" in the Gironde estuary. Forty-five of her complement were missing or dead ; 115 had been rescued.

The R.A.F. attacked with success military objectives at Macaaca (Eritrea) and on the Libyan frontier.

Italian aircraft bombed Aden and Mersa Matruh with little result and attempted a raid on Malta where one enemy bomber was shot down. Rome reported the death of Marshal Balbo, his aeroplane falling in flames over Tobruk "during an enemy bombardment."

The Commander-in-Chief East Indies Squadron reported the **destruction of two more Italian submarines.**

Italian troops attacked without success British Moyale on the Kenya-Abyssinia border.

Rumania gave way to Russian demands and Soviet troops proceeded to occupy Bessarabia and northern Bukovina. The Rumanian Cabinet was reconstructed, and mobilization ordered.

At night the R.A.F. attacked objectives in France, Holland and Germany, many aerodromes being damaged. Chemical factories in the Rhineland were set ablaze and the Ruhr was again visited with satisfactory results.

An air-raid on Great Britain resulted in injuries to 5 persons. Bombs were dropped in South Wales, and near the East Coast. (After daylight, an enemy bomber was shot down by an R.A.F. fighter off the coast of Scotland.)

29th June.—During the night **the Germans** also **raided the Channel Islands** where there was no opposition as the islands had been demilitarized some days earlier. In Guernsey, 29 civilians were killed, and in Jersey 10; many others were injured.

R.A.F. bombers carried out a surprise daylight attack upon Abbeville aerodrome and did much damage; a successful attack was also made upon the harbour of Willemsoord (Holland).

German troops occupied the Franco-Spanish frontier in accordance with the armistice terms.

The R.A.F. again raided Italian posts near the Libyan frontier, also the aerodromes at Macaaca (Eritrea). Italian raids, both unsuccessful, were reported on Port Sudan and Aden.

The Japanese Foreign Minister announced that Japan was following a policy similar to that of the Monroe Doctrine as regards the Far East and the South Seas.

At night the R.A.F. continued its successful attacks on northern and western Germany, also bombing objectives in Belgium, Holland and France. Aerodromes, railways, and a chemical factory were severely damaged.

Enemy aircraft crossed the South and East coasts of Great Britain after darkness fell and bombs were dropped in the midlands, southern England, the Bristol Channel vicinity, and Scotland. Little damage was reported; 2 civilians were killed and 8 injured.

As was only to be expected the terms of the French armistices with Germany and Italy aimed at the speedy disarmament of France and, ultimately, the employment of her resources in the fight against the British Empire. The intentions of the various possessions of the French Colonial Empire was still undefined, although French communities throughout the world protested against the surrender. In London General de Gaulle, with the approval of the British Government, was busy with the task of organizing the resistance of "all Frenchmen outside the power of the enemy." The fate of the French fleet remained in doubt. In a broadcast speech on 25th June, Marshal Pétain announced the German armistice conditions and explained that the élite of the French army was sacrificed in the Battle of Flanders; only 60 French divisions opposed 100 German (plus 11 armoured divisions)

in the Battle of France ; the war was virtually won by Germany before Italy entered the field.

The collapse of France had its repercussions in the Balkans and in the Far East. Russian aggression in Rumania hardly appeared to be in consonance with the plans of the Axis Powers and King Carol was even reported to have asked Berlin and Rome for advice. He was certainly apprehensive of action by Hungary to recover Transylvania and by Bulgaria to regain the Dobruja. Japan, besides demanding that no more supplies should reach China through Indo-China, the " Burma road " or Hong Kong, pressed the Dutch East Indies to allow the penetration of Japanese commercial interests.

No serious operations had yet been initiated in the Mediterranean theatre. Italy during the ten days following her entry into the war was reckoned to have lost at least fifty aircraft and to have sustained great damage to her ground installations.

Whatever value the small but persistent air-raids on Britain possessed for the Germans, they certainly afforded valuable practice in the co-ordination of our defence, especially as regards the searchlights and the R.A.F. fighters ; it was divulged that during the previous week two enemy aircraft had fallen victims to the balloon barrage. There was increasing evidence of the moral and material effects of the R.A.F. raids on Germany.

During the week ended 16th June ten British merchant ships (tonnage 47,015), eight allied (31,574), and six neutral (23,170) were lost by enemy action, besides a tonnage of 5627 sunk during operations off the French ports. Up to 19th June, 25,473 ships had been escorted in convoy with the loss of only 36.

30th June.—The R.A.F. attacked successfully German-occupied aerodromes in France, at Vignacourt and Abbeville. In combats over France, Hurricanes of the Fighter Command shot down five Messerschmitt 109's, and were believed to have accounted for seven more.

German forces landed in Guernsey.

H.M. submarine " **Grampus** " was announced by the Admiralty to be overdue from her mine-laying operations and **presumably lost** with her complement of 55.

In France, 22,000 troops who had continued to defend forts in the Maginot Line were informed of the armistice with Germany

and capitulated. The French (Pétain) Government completed its move from Bordeaux to Clermont Ferrand and Vichy.

R.A.F. attacks were made with success upon objectives in Eritrea. Two naval vessels in the harbour at Accico were bombed. The Italians raided Malta and Berbera on this day, but did little harm.

British patrols and mechanized units entered Eritrea from the Sudan: enemy cavalry were routed with loss and casualties inflicted upon enemy patrols. Somaliland frontier posts held by Italian regulars were engaged by the Camel Corps.

At night the R.A.F. attacks on Germany embraced the regions of Hamburg, Darmstadt, Osnabrück, Hamm, and Wesel; also aerodromes near Bremen and Dortmund and on the island of Nordeney.

1st July.—Enemy aircraft again raided Britain on this night, dropping bombs in eastern and western England, Wales and East Scotland. A few persons were injured.

Great Britain declared that she would not allow Syria or Lebanon to be occupied by a hostile power.

General de Gaulle announced the appointment of Vice-Admiral Muselier to command the "free French naval and air forces."

R.A.F. aircraft shot down an enemy "floatplane" off the North-East coast of England.

In the evening, before dark, enemy aircraft raided Great Britain, dropping bombs in North-East coastal districts of England and in Scotland. Six persons were reported killed and 16 injured.

German forces landed in Jersey.

The R.A.F. made successful bombing raids on Abyssinia and on Augusta (Sicily), besides co-operating in operations on the Kenya-Abyssinia border.

Mersa Matruh and Sidi Barrani (western Egypt) were bombed by Italian aircraft. On this (the Libyan) frontier the operations of British light forces proceeded. Italian troops made three attacks upon British Moyale (Kenya border); all were repulsed with loss.

Rumania renounced the Anglo-French guarantee to come to her aid if she were attacked.

During the night the R.A.F. attacked many aerodromes and other military objectives in northern and western Germany. At Kiel the German battleship "**Scharnhorst**," under repair

in a floating dock, was **bombed** with many direct hits ; much damage was done to the whole naval base where extensive fires were started. The Fleet Air Arm attacked with success barges and other river traffic near Rotterdam.

- 2nd July.—The Admiralty announced successful operations against German submarines ; also the destruction by our naval and air forces in the Mediterranean of four Italian submarines during the period 27th–30th June.

The R.A.F. carried out successful bombing operations on Macaaca (Eritrea) and against the Italians at Moyale (Kenya–Abyssinia border). An attempted Italian raid on Malta was driven off without loss.

British forces continued their operations on the eastern frontier of Libya, and at Metemma (Sudan–Abyssinia frontier) a British detachment successfully engaged an Italian force much superior in numbers.

Daylight air-raids on England caused some damage to houses ; casualties amounted to 13 killed and 120 injured mostly in the North-East coastal region.

At night the R.A.F. bombed military objectives including docks, railways, and aerodromes, in Germany, Denmark and Belgium.

- 3rd July.—Drastic action having become necessary in order to prevent the French fleet falling into enemy hands, according to the armistice terms accepted by the Pétain Government, **British naval parties took over control of all French warships in British ports** ; the operation was carried out smoothly, even amicably, except for one small encounter, the result of a misunderstanding. Arrangements were made to ensure that the French battle-fleet at Alexandria should not leave harbour and fall into the power of the Germans. **At Oran, however, the French Admiral preferred to fight rather than listen to the British proposals ; as a consequence his battle-fleet was, for the most part, damaged or destroyed ; few vessels escaped to sea, and casualties to French naval personnel were very heavy.**¹

In daylight raids on Holland and Belgium the R.A.F. inflicted great damage upon enemy air-bases, oil plants and communications.

Over 1000 survivors from the “ Arandora Star ” (tor-

¹ See also Navy Notes, p. 582.

pedoed, without warning, off Ireland by a German submarine) arrived at a Scottish port. The ship was conveying 1500 German and Italian internees to Canada, and the loss of life was heavy.

The last centre of French resistance in the Alps, Fort de l'Ecluse near Bellegarde, surrendered.

Italian aircraft raided Malta and one was shot down at sea.

The South African Air Force raided with success an Italian camp near Moyale (Kenya-Abyssinia border).

A daylight air-raid on Britain caused the death of 6 people and wounded 78. No damage was done to military objectives. Seven German aircraft were shot down and six others were badly hit.

At night the R.A.F. bombed aerodromes at Aachen (Germany), de Kooy (Holland), and Merville (France).

4th July.—A night air-raid on the eastern counties of England was carried out by a small number of German aircraft. No casualties were reported.

The R.A.F. raided with success, during the day, aerodromes, oil refineries, etc., in Germany, Holland and Belgium. Also, much damage was done among enemy patrol vessels off the Dutch coast, and a German supply ship was hit off Stavanger (Norway). Over the South coast of England R.A.F. fighters shot down two and seriously damaged another German aircraft.

A German air-raid by daylight on England set on fire a naval auxiliary vessel and sank a small tug and a lighter at Portland, where 11 civilian casualties were caused. One enemy bomber was brought down.

Germany authorized the Pétain Government to order the scuttling of French warships to prevent them falling into British hands; **the Pétain Government ordered all French warships still at sea to intercept British merchant vessels and to resist British attacks.**

In the Western Desert (Egypt) the R.A.F. shot down nine Italian aircraft near Sidi Barrani and attacked a camp at Bir el Gobbi; the South African A.F. bombed with great success military objectives in Italian Somaliland. Italian air-raids on Alexandria caused 22 casualties, but did little damage. An attempted raid on Malta was quite unsuccessful.

In the Western Desert British patrols cut the water pipe-line between Bardia and Capuzzo. British posts at Kassala and

Gallabat (Sudan frontier) withdrew after resisting attack by superior Italian forces and inflicting considerable loss.

At night the R.A.F. carried out extensive raids on North and West Germany, including the naval bases of Wilhelmshaven, Emden, and Kiel, and two aircraft factories. The airport at Brussels was also attacked with success.

5th July.—A German night raid on England inflicted only slight damage and caused no casualties.

The Air Ministry announced that within five days **in June the R.A.F. had carried out attacks upon five submarines ; all these attacks appeared to have been successful.** Daylight attacks were made with great effect by the R.A.F. on a German aircraft factory (Deichshausen) and on two Dutch aerodromes.

A solitary enemy aircraft was reported to have made an attack upon Gibraltar in the early morning. Its bombs fell into the sea.

The R.A.F. and Fleet Air Arm raided the harbour at Tobruk (Libya) and inflicted considerable damage on Italian shipping, including a destroyer or submarine ; the Bardia vicinity was also attacked with success by our bombers and, inland, El Gubbi. Catania (Sicily) was successfully bombed by the Fleet Air Arm.

The French light cruiser "Rigault de Genouilly" was torpedoed by a British submarine which had not received the Admiralty instructions to take no further action against the French fleet.

In the Western Desert (Libya) British troops attacked an enemy column, destroying guns and mechanized vehicles.

In the early morning the R.A.F. shot down an enemy bomber off the South-East coast of England ; before nightfall an attempted air-raid was driven off, one enemy fighter being shot down in an engagement with fighters and bombers.

At night the R.A.F. attacked the naval bases of Kiel and Wilhelmshaven ; also the docks at Cuxhaven and Hamburg, railways at Cologne, and two Dutch aerodromes. Considerable damage was done.

6th July.—Enemy aircraft crossed the North-East coast of England at night, but no casualties or damage were reported.

The R.A.F. attacked in daylight aerodromes in Belgium, France and Holland, also other objectives in Holland. The Air Ministry disclosed that **the R.A.F. and Fleet Air Arm had obtained "outstanding results" in mining the Baltic, the**

Belt, the Norwegian coast, and the enemy North Sea ports, estuaries and harbours. Heavy loss had been caused to German shipping, including one warship damaged.

At Oran, where the French admiral had signalled that he was abandoning his ships, the Fleet Air Arm attacked the derelict battle-cruiser "Dunkerque," which had been damaged and driven ashore on 3rd July. Six hits were obtained on the ship, which was thus left in no condition to take part in the war.

Reports from Cairo indicated that the French fleet at Alexandria had been demobilized without incident.

The Italians announced that they had made air attacks upon British aerodromes in the Western Desert. They lost one aircraft shot down and one badly damaged during a raid on Malta where four civilians were slightly hurt.

During the day enemy aircraft crossed the North-East coast of Scotland, also appearing over the South-East and South coast of England. Some damage was done by bombs and there were a number of casualties; one raider was shot down.

At night the R.A.F. bombed shipyards at Bremen and Kiel; an armament depot at Emden; Brunsbüttel; and the seaplane bases at Nordeney and Hornum.

A night air-raid on England did some damage and caused casualties on the North-East coast.

The impression which prevailed in some quarters that, since the defeat of France, Great Britain had become a beleaguered territory was rightly corrected by the reports of the offensive action of our naval and air forces against Germany and the countries in German occupation. In the air and on the sea we exercised the initiative, and the same could be said of the Mediterranean and African theatres where, however, no operations of importance had yet developed. The measures taken to preserve as much as possible of the French fleet from falling into German hands were forced upon the British Government. The destruction of the French ships at Oran was recognized throughout the Empire, in the U.S.A., in Turkey, and by "free Frenchmen," even in Japan, as a tragic necessity. No details were yet available regarding the exact location of all units of the French fleet.

With France under the German heel the Axis Powers talked of the establishment of the "new European order" which none of the subjugated nations could oppose. Sweden, too, showed signs of yielding to German influence and, in the Balkans—where Russian demands appeared

to be satisfied—Rumania openly ranged herself with Germany and Italy as far as her foreign policy was concerned.

The fate of the French overseas possessions remained in the balance. The British determination not to permit a hostile occupation of Syria, however, had the approval of Turkey and Iraq. On the conclusion of the French armistice with Germany the northern (Syrian) branch of the oil pipe-line from Iraq had been closed.

Several accounts were given by Rome as to the circumstances in which Marshal Balbo met his death. As no British aircraft were concerned, the incident could only be regarded as one of the minor mysteries of the war, bearing some resemblance to the death of General von Fritsch near Warsaw in September, 1939.

The collapse of France, involving the dislocation of allied escort arrangements at sea, was largely responsible for the increase in merchant tonnage sunk during the week ended 23rd June. Moreover, there appeared to be more U-boat activity. Eight British (57,813 tons) eight allied (36,750 tons) and eleven neutral vessels (34,882) were lost by enemy action. In addition, 30,446 tons of British and 33,020 tons of French shipping were lost during the combined operations in French waters. Only one ship was lost in convoy.

By far the greater portion of the 53,048 tons of cargo seized by the British Contraband Control in June was intercepted in the Mediterranean section.

7th July.—The R.A.F. made an extensive daylight reconnaissance over Germany; an aerodrome at Eschwege (central Germany) was successfully attacked. German fuel stocks (tanks and an oil tanker) at Bergen (Norway) were bombed with great effect by the Fleet Air Arm.

The Admiralty announced some details of our submarine activity against German sea communications to Norway; H.M. submarine "Snapper" had hit five enemy ships in her torpedo attacks.

Enemy aircraft raided South and South-West England during the day, causing some damage and a few casualties. Three German bombers and one fighter were shot down.

The Italians raided Alexandria where they lost two aircraft, and Malta where one was shot down. Nine civilians were reported killed at Malta.

On the Sudan-Abyssinia frontier a considerable Italian force

occupied the police post at Kurmuk, the small garrison of Sudanese police withdrawing after it had inflicted 50 casualties on the enemy.

At night the R.A.F. bombed German railways, naval barracks and bases, and aerodromes over a large area from Ludwigshaven to Osnabrück and the North Frisian islands; also airports at Rotterdam and Brussels. A supply vessel at Boulogne was attacked and, in the early morning, Ostend harbour.

Enemy aircraft crossed the North-East coast of England at night. Some damage and casualties resulted.

8th July.—The R.A.F. made daylight attacks on Dutch canal communications, the Danish harbour of Aalborg, patrol vessels off the Danish coast, and aerodromes at Douai and Soissons.

H.M. destroyer "Whirlwind" was reported sunk by a torpedo, with considerable loss of personnel.

During the day German aircraft raided the South-East and West coasts of England, doing some damage and causing a few casualties. Eight enemy aircraft were brought down; the R.A.F. lost three fighters.

British action was taken to prevent the new French battleship "Richelieu" (35,000 tons) from falling into enemy hands. The "Richelieu" lay at Dakar (North Africa) and, as the French admiral refused to accede to the British proposals, a motor boat was sent in to explode depth charges under the stern of the warship. After this effective operation, the Fleet Air Arm attacked and with their torpedoes seriously damaged the "Richelieu."

In Abyssinia and Eritrea the R.A.F. bombed with good effect Direidawa, Zula, and Massawa. An Italian attempt to raid Malta was checked and no bombs were dropped.

A British cruiser was hit by a bomb during an Italian air attack in the Mediterranean. Few casualties were caused, and the fighting efficiency of the ship was not affected.

At night the R.A.F. attacked the naval bases of Kiel and Wilhelmshaven setting on fire two German warships (destroyers or light cruisers). Aerodromes in Holland, oil refineries at Homburg, and the goods yard at Hamm were also bombed and damaged.

After darkness fell, sporadic raids on Britain (Scotland, North-East, East and South-East England) by German bombers caused slight damage and few casualties.

9th July.—In the early morning R.A.F. bombers attacked Bergen where an ammunition dump was set on fire and a ship and seaplane slipway damaged. In bombing the aerodrome at Stavanger in the face of fierce opposition, seven of our aircraft were lost.

Throughout the day enemy aircraft appeared over parts of England, including the Bristol Channel area and East Anglia. A number of casualties were caused and some damage was done. Nine of the raiders were shot down.

In the Mediterranean East of Malta a British squadron obtained contact with Italian naval forces which included two battleships, several cruisers and about 25 destroyers. The enemy promptly withdrew under cover of a smoke screen, and was pursued until he gained the shelter of his shore defences. One of our capital ships scored one hit on an Italian battleship and a torpedo of the Fleet Air Arm got home on an enemy cruiser. There were three British casualties, but the Italians admitted that in the one ship hit the losses were 29 killed and 69 wounded; also that the destroyer "Zeffiro" was sunk and that a submarine was missing. Following the above action, enemy aircraft attacked in great force, but did no damage. Five Italian machines were brought down by the Fleet Air Arm, and at least fifteen by the anti-aircraft guns of the British fleet.

At the same time a British force including the "Hood" and "Ark Royal," based on Gibraltar, swept eastward but encountered no Italian surface craft. Four enemy aircraft were destroyed and seven others badly damaged.

H.M. submarine "Parthian" was reported to have sunk an Italian submarine "in another part of the Mediterranean."

In the evening the R.A.F. carried out a successful attack upon the Italian aerodrome at Macaaca (Eritrea).

British harassing operations by land forces in the Western Desert (Libyan frontier) proceeded successfully. The Italians attacked British Moyale (Kenya-Abyssinia border).

At night the R.A.F. attacked Germany and Holland; the objectives, which were bombed successfully, included the Wilhelmshaven and Bremen dockyards, railways in the Ruhr, aerodromes and an oil refinery. The R.A.F. attacked in daylight the aerodromes of St. Omer and Amiens, but lost five aircraft.

10th July.—The Admiralty gave notice of minefields laid between the Orkneys and Iceland and between Iceland and Greenland.

The Fleet Air Arm sank an Italian destroyer and a hulk in a raid upon a harbour North of Augusta (Sicily).

Malta was raided repeatedly by Italian aircraft, causing slight damage and killing one civilian. Three enemy aircraft were brought down and two badly damaged. Alexandria was raided by enemy bombers, but no harm was done.

Successful raids by the R.A.F. were carried out on Tobruk (Libya) and the aerodrome at Macaaca (Eritrea).

Italian attacks on Moyale continued.

During the day enemy aircraft raided South Wales and South-West and southern England, also attacking shipping off the coast. Some damage and a number of casualties resulted, but 14 of the enemy were shot down, whilst 23 others were reported to have been crippled. Two of our fighters were lost.

At night sporadic enemy air-raids were carried out over the eastern and south-eastern counties and the midlands. Some casualties and slight damage were caused.

11th July.—The R.A.F. bombed a concentration of barges, machine-gunned enemy flying boats, and damaged the lock gates at Boulogne. In the course of the day many other military objectives in France and the Low Countries were attacked with good results.

H.M. patrol yacht "Warrior II" was bombed by enemy aircraft in the English Channel and sunk.

The R.A.F. were successfully engaged in the Moyale region of the Kenya-Abysinia border.

Enemy aircraft raided the midlands, and the South and East Coasts of England. Air-fighting continued intermittently all day over the coastal areas, and 23 German aircraft were destroyed. Four R.A.F. fighters were lost; some damage was done on land and a few civilians were killed.

At night the R.A.F. attacked enemy aerodromes in Holland and munition works, blast furnaces and other objectives in Germany.

A night raid by German aircraft on the eastern and south-western coasts of England did little damage and caused few casualties, none fatal.

12th July.—During the day there were several encounters round Britain. Enemy aircraft attacked a convoy off the South-East Coast, and were promptly engaged by our fighters; in raids upon Scotland some damage was caused and a number of civilians were killed or

injured. Eleven enemy bombers were destroyed, and two of our fighters were lost.

At night the R.A.F., in spite of adverse weather, bombed the naval bases of Emden and Kiel, doing considerable damage to petroleum sheds, factory buildings, and docks.

A night raid by German bombers over North-East England, Scotland and Wales damaged some houses and killed and injured a number of civilians.

13th July.—**The R.A.F. carried out effective daylight raids** upon a Brussels aerodrome, objectives at Monheim in the Rhineland, and concentrations of barges on the Bruges-Ostend canal.

In the course of the day twelve raiding aircraft were destroyed round Britain. The enemy mostly confined his attacks to shipping, but three people were killed by bombs on land. The R.A.F. lost three aircraft.

In Libya the R.A.F. bombed several objectives including shipping in Tobruk harbour; in Eritrea they attacked ammunition and petrol dumps at Assab and aerodromes at Massawa.

The Italians raided Malta without inflicting any damage, and slight casualties were caused by their air-raid on Aden.

Fighting continued at British Moyale (Kenya-Abyssinia border); the Italians captured a small frontier post at Abdul Ghedir (British Somaliland); and British forces continued to harass the Italian transport columns approaching Fort Capuzzo from the Libyan coast.

In the evening and at night the R.A.F. attacked with success many objectives in North-West Germany (Hamburg, Bremen, Wilhelmshaven, Emden, the Ruhr, etc.) and in Holland and Belgium.

A German attempt at night to raid South-East and South-West England and also Wales failed completely. No bombs appear to have been dropped.

Enemy air attacks around the coast of Britain concentrated more and more upon shipping as the week passed. Little damage was done, and the R.A.F. exacted a heavy toll from the Germans: **about 90 aircraft destroyed and 50 more badly damaged, as against the loss of 11 British fighters.** The superior quality of our air forces was made manifest in every encounter, whilst there was good reason to believe that **the devastation** caused in North-West Germany by the R.A.F. had produced an increasing apprehension among the German people, apart from the material damage done.

Every day saw Great Britain more prepared to resist an invasion if it should come. The nine divisions which had returned from France were again up to establishment, and had been completely re-equipped; all other formations were increasing their efficiency; the number of training centres had been increased; 1,060,000 Local Defence Volunteers had been enrolled; contingents from the Empire—Canadian, Newfoundland, Australian and New Zealand—were here, and French, Polish, Dutch, Norwegian and Czech troops had their place in the scheme of defence.

The attitude of Eire remained in doubt. Mr. de Valera was reported to have told an American journalist that his country would resist equally a German occupation or a British landing to prevent such occupation; his demand was that Northern Ireland should unite with Eire to preserve the neutrality of the whole of Ireland.

The disablement of the "Richelieu" at Dakar closed a distressing chapter of our relations with the French Navy. Of the eight French capital ships, the only one which had reached France was the "Strasbourg"; she had escaped from Oran and, although torpedoed, reached Toulon.¹

Six British merchant ships (30,377 tons), three allied (9622 tons) and three neutral (11,340) were lost by enemy action in the week ended 30th June. Three ships were lost in convoy, making a total of 40 out of 27,247 convoyed since the outbreak of the war.

During the week some impressive details of the war effort of India were made public. The expansion of the Royal Indian Navy, the Army and the Air Force was matched by the increased production of her armament industries.

France's new Constitution, voted on the 10th July, created a pseudo-totalitarian state which had no prospect of commanding the confidence of the people and could not alter the fact that France was a conquered nation and must submit to Germany's will whilst Germany remained undefeated.

A request from Norway, but obviously inspired by Germany, that King Haakon should abdicate was obviously another German effort towards establishing the "new European order." The request was, of course, refused.

There were no fresh developments in the Balkans where much depended upon any further action which Russia might see fit to take. If Germany were really preparing for an invasion of Great Britain, it seemed that a tranquil south-eastern Europe was almost a necessity to her.

¹ See also Navy Notes, p. 582.

14th July.—Barge concentrations at Bruges, and at St. Pierre North of Bruges, were destroyed by R.A.F. attacks.

Early in the evening enemy aircraft attacked shipping in the Straits of Dover, but were engaged by our fighters. Seven of the German machines were destroyed and many more damaged.

Renewed attempts of Italian aircraft to attack Malta caused no damage and no casualties.

The R.A.F. attacked with success shipping at Tobruk (Libya), stores and barracks near Assab (Eritrea), and buildings at Italian Moyale (Abyssinia).

The Admiralty announced the **loss in the western Mediterranean of H.M. destroyer "Escort."** She was hit by a torpedo and damaged, and then foundered after being taken in tow. Two ratings lost their lives.

After being attacked at intervals for five days the garrison of British Moyale (Kenya-Abyssinia border) was withdrawn "without incident." In the Western Desert (Libya) an Italian transport column on its way to Fort Capuzzo was compelled to withdraw. An effective night raid was carried out by the Camel Corps on an enemy post at Gamuk (Somaliland frontier).

At night the R.A.F. delivered heavy attacks upon aircraft factories and stores, oil refineries and railway yards in Germany; also aerodromes in Germany and Holland, and an oil storage depot at Ghent. Extensive damage was done.

Enemy aircraft crossed the English coast after darkness fell and dropped bombs on South-East and South-West England. The damage done was negligible; one person was slightly injured.

15th July.—The R.A.F. attacked by daylight enemy aerodromes at Lisieux and Evreux (Normandy).

Enemy aircraft dropped bombs on a South Coast town, causing some casualties and damage; small raids on South-West England and South Wales caused only slight damage.

The Admiralty announced that **H.M. submarine "Shark,"** being considerably overdue, must be **presumed lost.**

The Irish (Eirann) ship "City of Limerick" was bombed and sunk by German air attack off Cape Ushant. Two of the crew were lost.

Italian aircraft raided Palestine for the first time, about fifty bombs being dropped near Haifa. Some damage was done and a number of Arabs were killed or wounded.

The R.A.F. attacked successfully Tobruk and other centres in Libya, the Tobruk raid being repeated after darkness fell; also Diredawa and Moyale (Abyssinia) and Assab (Eritrea). The South African Air Force bombed a village and a body of enemy troops near the Kenya-Abyssinia border.

The British Government gave notice that all ships navigating within 30 miles of any Italian territory in the Mediterranean did so at their own risk and peril. (This was in reply to a similar Italian notice regarding ships bound for allied ports in the Mediterranean.)

British troops operating on the North-West frontier of Kenya withdrew after completing the destruction of an enemy post at Namarapath. The Somaliland Camel Corps made a successful raid upon an Italian post at Damarabob.

At night **the R.A.F. carried out very extensive attacks** on aerodromes, oil refineries, railway yards, blast furnaces and harbours in northern and western Germany and in Holland.

Few German aircraft crossed the English coast on this night. They were soon driven off, although some bombs were dropped in the midlands.

16th July.—In spite of bad weather, the R.A.F. attacked enemy occupied aerodromes in France, also barges on the river Lys near Armentières.

Spasmodic raids by enemy aircraft on Scotland and North-West England caused some damage and a few casualties; one German bomber was shot down off the Scottish coast and two in the Channel.

Two R.A.F. fighters engaged a large formation of Italian aircraft which attempted to raid Malta; one of the enemy was shot down and one of our fighters crashed (our first casualty in this area). In answer to mendacious Italian reports, it was announced that in the course of five weeks of fighting ten enemy aircraft had been destroyed near Malta and seven more badly damaged.

A large formation of Italian bombers raided Sidi Barrani (Western Desert) without much effect. The R.A.F. attacked Asmara (Eritrea) successfully, but lost one bomber.

At night the R.A.F. carried out successful raids on Tobruk harbour (Libya) and on El Gubbi aerodrome nearby.

Owing to very unfavourable weather the usual nightly attack

on Germany and German occupied territory was not carried out. Neither were any enemy aircraft reported over Great Britain.

17th July.—R.A.F. bombers attacked barge concentrations in Holland and Belgium.

Daylight raids by enemy aircraft caused some casualties and damage in South-East England and in Scotland.

Details were revealed of the **destruction** in the Atlantic of a **German submarine by a Sunderland flying boat of the Royal Australian Air Force.**

The Admiralty announced the **loss of H.M. auxiliary cruiser "Vandyck"** sunk by air attack off the coast of Norway on 10th June, with the loss of 2 officers and 5 ratings killed and 29 officers and 132 ratings taken prisoner.

R.A.F. bombers attacked successfully hangars, dumps, barracks, etc., in Eritrea and Abyssinia; Italian raids on the Western Desert and in Kenya did little damage, and an attack on Buna (Kenya) none at all.

British forces again operated with success in the Fort Capuzzo area, capturing some Italian guns and destroying a number of lorries.

At night the R.A.F. attacked with success the aerodromes at Merville (France) and Hertogenbosch (Holland), also oil installations at Ghent and Gelsenkirchen (Ruhr). Bad weather prevented further operations.

At night, also, there was some enemy air activity over South-East and South-West England and over Wales. Some casualties and damage were caused.

18th July.—The R.A.F. attacked by daylight barges near Rotterdam, Boulogne harbour, warehouses at Le Havre, and the aerodrome at St. Omer. Three bombers failed to return.

Over the Channel, one aircraft of the Coastal Command was lost and one German bomber shot down.

H.M. minesweeping trawler "Rinovia" was attacked from the air in the Channel and suffered three casualties, but shot down one enemy aircraft.

Daylight raids on North-East, South and South-West England and on Wales caused a few casualties and some damage.

Early in the morning an air-raid on Gibraltar killed three civilians.

The R.A.F. carried out destructive raids upon Tobruk harbour and El Gubbi (Libya), and aerodromes in Eritrea, whilst the South African Air Force successfully bombed the aerodrome at Neghelli (Abyssinia). An Italian attempt to raid Mersa Matruh (West Egypt) resulted in the loss of an enemy bomber.

At night **very extensive air-raids** were carried out by the **R.A.F.** on aircraft factories and depots at Bremen, Diepholz, Paderborn, and Rotenburg (in Thuringia); oil depots at Bremen and Hanover; munition factories at Essen; goods yards at Hamm; the aerodrome at Eschwege near Cassel; and ammunition trains near Soltau, East of Bremen. The naval base at Emden, the harbours of Harlingen and Willemsoord, and a supply depot at Ghent were also successfully bombed. All these operations cost one aircraft missing.

19th July.—German air-raids on shipping round our southern coasts resulted in many encounters, twelve enemy aircraft being shot down whilst five of our fighters were lost. Bombs were dropped in Scotland, Wales and South-East England, but did little damage and caused few casualties.

H.M.A.S. "Sydney" accompanied by a small destroyer force engaged two Italian cruisers North-West of Crete. The enemy endeavoured to escape, but **the "Sydney" sank the 6-in. gun cruiser "Bartolomeo Colleoni"** by gunfire and secured hits on her consort which eluded the pursuit. Italian bombers attacked our ships whilst they were rescuing Italians from the "Colleoni." Prisoners numbered 545, including the captain of the cruiser.

Reports of two British merchant vessels sunk in West Indian waters confirmed the presence of an enemy raider, presumed to be an armed merchant vessel, in the Atlantic.

In the Western Desert (Libya) operations continued against Italian columns endeavouring to approach Fort Capuzzo; a Camel Corps patrol raided successfully the Italian post at Farenji (Somaliland); and an enemy mounted infantry force was successfully engaged on the northern frontier of Kenya.

In accepting his nomination by the Democratic Convention for the Presidency of the U.S.A., Mr. Roosevelt reiterated his policy of affording "all proper material and moral aid" to those countries which were resisting aggression.

Herr Hitler addressed the Reichstag, again attempting to throw upon the democracies responsibility for the War. He said that he saw no reason why the war must go on; commended Italy

for the dubious part she had played since last September ; and concluded with insults and threats against Great Britain and the Empire.

At night the R.A.F. attacked aerodromes and seaplane bases along the coast of North-West Germany and northern Holland. Extensive damage was also done to the naval base at Emden and the port of Harlingen (Holland) ; aircraft factories at Wismar (Baltic coast), Wenzendorf (near Hamburg), and at Bremen ; oil plants at Bremen and Gelsenkirchen ; and railway communications in the Ruhr. Three of our aircraft failed to return.

Enemy aircraft dropped bombs in Scotland and in North-East, South-East and South-West England during the night. Little damage was done and few casualties resulted.

20th July.—Daylight operations of the R.A.F. included attacks on the wireless stations at Utsire island (near Stavanger) and the aerodrome at Flushing.

Enemy aircraft in considerable numbers attacked ships in a South of England harbour and also a convoy in the Channel. In a series of air combats, 18 German machines were shot down, whilst three more were destroyed by A.A. gunfire from the ground. Four of our fighters were lost.

Aircraft of the Fleet Air Arm raided the harbour of Tobruk (Libya) with great success.

A patrol of the K.A.R. intercepted and turned back a strong body of the enemy at Ajao (Kenya).

At night the R.A.F. attacked with marked success the naval base at Wilhelmshaven ; oil refineries at Hamburg and Bremen ; shipping in the harbour at Emden ; aircraft factories, aerodromes and oil depots in Central Germany, in the Ruhr, and in Holland and Belgium. Five of our bombers failed to return.

Enemy aircraft dropped bombs in isolated districts of England and Wales during the night. Slight damage and some casualties were reported from North-West and South-West England.

The anticipated invasion of Great Britain obviously presented some difficult problems to the German General Staff ; and Germany doubtless had preoccupations in the conquered territories. There were signs that she was bringing political pressure to bear not only upon Rumania but Yugo-Slavia also, with the purpose of diminishing British prestige in the Balkans and making the position of Turkey difficult. Meanwhile, in the West, **the R.A.F. maintained the initiative by their repeated**

attacks upon the German bases, communications, depots and armament factories.

In his speech on the 19th July, Herr Hitler, for the first time, seemed to betray some doubt as to the issue of the war. Mainly intended it would seem for home consumption, the speech was received at its true value by the countries not under German domination, although Russia preserved her non-committal attitude.

No operations of importance had yet taken place in Africa or in the Mediterranean where, however, Italian prestige suffered a blow through the successful action of H.M.A.S. "Sydney" and her attendant destroyers. On land the Italian losses around Fort Capuzzo (Libya) up to the end of the week were reckoned at 700 prisoners, 50 lorries destroyed and several guns taken; the company of the K.A.R. engaged at Moyale (Kenya-Abyssinia border) had distinguished itself greatly. In the air the Italians, despite their numerical superiority, had suffered much more damage than they had been able to inflict.

During the week the conditions under which citizens of the U.S.A. could be accepted for the R.A.F. and for the Dominion and Colonial Air Forces received publicity. The initiative must come from these Americans; they must be recruited on British soil; and they would not be required to take an oath of allegiance. There were no vacancies for other than experienced airmen.

On the 18th July, the French Embassy closed in London. Our relations with the Pétain Government remained undefined. It was becoming increasingly obvious that the newly created French "dictator" was completely under German control.

An agreement reached on the 17th July with Japan, whereby no war material would be imported into China through Burma during the next three months, could only be regarded as a measure for the temporary easement of our relations with the former Power, whilst, as the Premier said, "we were engaged upon a life-or-death struggle."

In the week ended 7th July, 13 British (total tonnage 75,833), three allied (9635) and six neutral merchant ships (28,669) were sunk by enemy action. The increase was due to the intensification of German submarine activity and the facilities for air attack unfortunately offered by German possession of the French coast. Of the 100,000,000 tons of shipping convoyed since the outbreak of the war, the loss was less than 0.25 per cent.

Up to the 17th July, 700,000 tons of goods had been seized by the British Contraband Control.

21st July.—Spasmodic air-raids upon British shipping and coastal areas took place throughout the day. The enemy did little damage in isolated flights over North-West, North-East and South-West England and South Wales, and casualties were few. His loss in aircraft was probably eight; two of our fighters were missing.

Off the Danish coast, the R.A.F. bombed successfully an enemy supply ship of 14,000 tons.

The Admiralty announced that H.M. submarine "Salmon," considerably overdue, must be presumed lost; also that H.M. minesweeping trawler "Crestflower" had been sunk in an engagement with enemy aircraft, with the loss of two ratings.

Three raids on Malta did no damage and resulted in the loss of one, probably two, Italian aircraft.

R.A.F. raids on Libya during the week-end caused considerable damage to shipping in Tobruk harbour and to El Gubbi aerodrome and military objectives at Bardia; from the Sudan, R.A.F. bombers were announced to have operated with success on aerodromes in Eritrea; and South African and South Rhodesian aircraft reconnoitred a wide area of Abyssinia, bombing various military objectives.

At night the R.A.F. bombed with success oil depots, docks, aircraft factories, goods yards, barges and aerodromes in France, Belgium, Holland and Germany. French airmen from General de Gaulle's command took part in the operations over North-West Germany; they flew in British aircraft with R.A.F. crews.

22nd July.—Enemy air-raids on Britain during the night did no serious damage. Bombs were dropped in the midlands and on the North-East coast of England; also in South-East and North-East Scotland.

Early in the morning the Fleet Air Arm attacked Bergen. Although the weather was unfavourable, bombs were dropped on the German seaplane base and an anti-aircraft vessel was sunk.

Wales and North-East England were visited by enemy aircraft early in the day, but the bombs dropped did very little damage.

The Admiralty proclaimed that an area extending from the North-West coast of Cornwall (between Hartland Point and Trevoze Head) to the limit of Irish territorial waters (between Mine Head and the Tuskar Light) was dangerous

owing to mines ; ships wishing to enter the Irish Sea or the Bristol Channel must pass round the North of Ireland.

The loss of H.M. destroyer "Brazen," sunk whilst being towed into port after attack by enemy aircraft, **was announced by the Admiralty.** There was no loss of life. The "Brazen" had shot down three enemy aircraft during the engagement.

At night the R.A.F. again raided Tobruk harbour (Libya), and it was thought that some Italian submarines were damaged ; also the aerodromes at El Gubbi and El Adem were bombed.

The night's operations of the R.A.F. over France, Holland, Belgium and Germany again wrought great destruction on oil tanks, aircraft factories, aerodromes, barges and railway yards. Three of our bombers failed to return.

23rd July.—Enemy aircraft were again over Britain during the night, visiting the Thames Estuary, South Wales, and South-East Scotland. Little damage was done, and few casualties resulted. Spasmodic raids continued after daylight, bombs being dropped in South-East and North-East Scotland and also South-West England. At least five enemy aircraft were shot down.

Enemy patrol boats in Dunkirk harbour were attacked by the R.A.F. in the afternoon.

The Admiralty announced that H.M. trawler "Capina" had been sunk by an enemy mine with the loss of the commanding officer and ten ratings.

In the Mediterranean a Sunderland flying boat attacked an Italian convoy, badly damaging two merchant ships ; the R.A.F. also bombed aerodromes in Eritrea ; and the South African Air Force attacked troops and an aerodrome in Abyssinia with good results.

From the Western Desert, further Italian losses in lorries and guns at Capuzzo were reported ; motorized detachments of the Somaliland Camel Corps had successfully raided many Italian posts.

At night the R.A.F. continued their attacks upon military objectives in Holland and Germany, no less than twelve aerodromes being bombed, besides harbours, docks, railways, oil tanks, A.A. batteries and searchlights. One of our aircraft did not return.

24th July.—In the early hours of the morning one of our motor torpedo boats engaged six similar German craft which fled. Damage was inflicted on one of the enemy.

The Fleet Air Arm attacked with torpedoes a German auxiliary vessel with naval escort in the eastern part of the North Sea, securing a hit on one of the naval vessels.

During a day of bad weather the R.A.F. repelled a series of air-raids upon shipping, and upon our coastal regions. Bombs were dropped by the enemy in South-East and North-East England, also in South-West Scotland, but small damage was done and few casualties were caused. In all twelve German aircraft were shot down (two by A.A. gun fire); the R.A.F. lost two fighters, but only one pilot.

Haifa was raided by Italian aircraft which dropped nearly a hundred bombs; 134 civilians were killed or wounded and an oil dump set on fire. Two air-raids on Malta caused only slight damage.

The R.A.F. carried out highly successful raids upon a large ammunition dump South of Bardia (Libya); these operations involved several air encounters during which nine, probably ten, Italian aircraft were shot down without loss to ourselves. R.A.F. raids on Macaaca aerodrome (Eritrea) and on military objectives in the Kenya-Abyssinia frontier region also succeeded without loss.

The Italians made six air-raids on Mersa Matruh (Western Desert), but caused little damage and only four casualties.

The R.A.F. dropped leaflets over France explaining the terms of the French armistice with Germany and the British action taken against the French fleet. Leaflets were also dropped over Morocco.

About 10.30 p.m. a **German motor torpedo boat deliberately machine-gunned, shelled and finally sank by torpedo the French ship "Meknes"** which was conveying 99 French naval officers and 1080 ratings from Southampton to Marseilles to be repatriated. The vessel was clearly marked and had a searchlight trained on the French ensign. Of the 1281 souls on board, 900 were rescued by British naval forces.

During the night, in spite of very unfavourable weather, the R.A.F. bombed the docks at Emden, Wilhelmshaven and Hamburg, the aircraft factories at Wismar and Wenzendorf, and the seaplane bases at Borkum and Texel. All our aircraft returned safely.

25th July.—Heavy air-raids were carried out in the morning upon a convoy of small British merchant vessels in the Channel, five ships being sunk and five damaged. Two of our destroyers, with two motor boats, then drove off an attack upon the convoy made by nine

German motor torpedo boats, and on returning from the pursuit were engaged by enemy dive-bombers, both ships sustaining some damage, and one, H.M.S. "Boreas," casualties to personnel. Later, H.M. trawler "Fleming" was lost in action between two of our trawlers and four German dive-bombers. In these and other combats round our coasts during the day **28 enemy aircraft were shot down.**

The Admiralty announced the loss of H.M. trawlers "Kingston Galena" and "Rodini," sunk by air attack.

An Italian air-raid on Alexandria caused minor damage and eight casualties.

The R.A.F. bombed with great success the Italian aerodrome at Derna (Libya) and the bases at Massawa, Macaaca and Assab (Eritrea), whilst the South African Air Force secured hits on Italian transport using the Moyale-Buna road (Kenya).

26th July.—During the night the R.A.F. made extensive raids upon Germany and German occupied territory. Extensive damage was done to oil plants and depots in the Ruhr; aircraft factories and stores at Gotha, Kassel and Eschwege; blast furnaces and chemical works in the Ruhr; railways in the Essen-Dortmund area; docks and wharves at Duisberg and Hamburg; the Dortmund-Ems canal; and fourteen different aerodromes in Germany and Holland. All this was accomplished in the face of extremely unfavourable weather and very fierce opposition; five of our aircraft did not return.

At night, enemy aircraft flew over South-East and South-West England and also Wales. Bombs were dropped in East Anglia, but no damage or casualty were reported.

Daylight raids were carried out by the R.A.F. on Dortmund power station and the Dutch aerodromes of Schipol and Waalhaven. All our aircraft returned safely.

Enemy aircraft attacked a town on the South-East coast, but casualties were small and little damage was done.

The R.A.F. repeated their raid upon Derna aerodrome (Libya) doing extensive damage; raids were also carried out with effect upon military objectives in Eritrea.

At night R.A.F. bombing operations were restricted owing to bad weather, but German oil stores at Cherbourg, St. Nazaire and Nantes were successfully attacked.

27th July.—Enemy aircraft dropped bombs during the night on districts

of South-East and South-West England, also Wales and North-East Scotland, causing few casualties and only minor damage.

In various encounters round our coasts during the day five enemy aircraft were shot down. Two of our fighters were lost.

The R.A.F. successfully bombed a German supply ship in Norwegian waters where an enemy fighter was shot down; another supply ship was attacked by our bombers off the Dutch coast and left in a sinking condition.

A few bombs were dropped by Italian aircraft in the Alexandria area early in the morning. No damage or casualties were reported.

The 1906 Class and those who had reached the age of 20 since 23rd June registered under the National Defence Act to the number of 340,840.

Successful R.A.F. attacks upon Germany and German occupied territory were carried out during the day and continued after nightfall. The objectives included the Nordsee canal (North Holland); barges at Stavoren (Friesland); oil depots at Hamburg and Amsterdam; docks and wharves at Wilhelmshaven and Bremen; and eight aerodromes in Holland and Germany. All our aircraft returned safely.

Enemy aircraft flew at night over Wales and South-West England where a few bombs were dropped. Only slight damage was caused and no casualties were reported.

The repeated air attacks upon our shipping—German attempts at a "counter-blockade," effected little and proved very costly to the enemy. From the 18th June to 25th July no less than 212 of his aircraft were shot down on and around our shores. The R.A.F. retained the initiative by its day and night attacks on Germany and German occupied territory, thereby curtailing the striking power of the German Air Force. Another important measure against the threatened invasion was the mine-field laid from Irish territorial waters to the Cornish and Devon coasts.

It was reassuring that our construction much more than out-balanced our naval losses, which mostly consisted of destroyers and smaller craft. The motor torpedo boat began to come into prominence, as it was bound to do with the French Channel coast in German possession. During the week, units of the "free" French fleet began to go into action, and in British ports the manning of other French warships was proceeding.

In the week ended 15th July, nine British (tonnage 32,963) four allied (7235) and six neutral (20,734) merchant vessels were sunk by enemy action—little more than half the total of the preceding week.

No British air-raid had been carried out on Rome, so it seemed that the Italian A.A. batteries had fired upon their own aircraft on the night of the 23rd, thus emulating their confrères at Venice a few weeks earlier.

Germany continued to make efforts to keep the Balkans tranquil. Rumania seemed to be coming more and more under her control and her immediate concern was obviously to draw the maximum amount of supplies from south-eastern Europe. If her ulterior motive was to secure a foothold on the Black Sea littoral a clash seemed probable with Russia and Turkey.

The situation in the French North African possessions remained uneasy. There were many signs that popular opinion was in favour of continuing the struggle, but commanders and administrators newly appointed by the Vichy Government were definitely anti-British.

Spain in some respects appeared to be ready to fill the "non-belligerent" role formerly played by Italy; during the week, however, two cargoes of Texas oil destined for Spain were stopped by the U.S.A. Government.

28th July.—The R.A.F. intercepted considerable forces of enemy aircraft off the South-East coast of England and engaged them successfully. In all **nine German aeroplanes were shot down during the day**; two of our fighters, but only one pilot, were lost.

An R.A.F. bomber successfully attacked Leeuwarden aerodrome (Holland) in daylight and drove down an enemy fighter on its way home.

The Italians attempted to raid Malta, but lost four aircraft in the course of encounters with the R.A.F.; superficial damage to a ship was caused by an enemy air-raid on Aden.

The Greek tanker "Hermione," under charter to the Italian Government and carrying 300 tons of petrol and 200 tons of lubricating oil, was sunk in the Aegean Sea by British naval forces. She could not be taken in prize owing to a heavy Italian air attack which, however, inflicted no damage on our vessels.

At night the R.A.F. continued their attacks upon military objectives in northern and western Germany, the targets including oil depots, docks and railway yards; also, **seventeen aerodromes in Germany, Holland, Belgium and northern France were bombed with success**. Three of our aircraft did not return. A raid, carried out without loss, upon the oil tanks at Cherbourg was completely successful.

29th July.—Enemy aircraft crossed the British coast during the night. Some bombs were dropped, but damage was slight, and few casualties resulted.

In the morning German aircraft which attempted to attack Dover were engaged by the R.A.F. who shot down, within half an hour, eight enemy bombers and seven fighters. Other encounters round our coasts brought the total German loss to twenty-one. We lost two fighters.

Daylight raids were successfully carried out by the R.A.F. on barges and other vessels at Emden and Hamburg and off the island of Terschelling ; on an oil refinery in the Ruhr ; and on several aerodromes in Germany and Holland. Also, a large enemy supply ship was damaged near Flushing. One of our bombers was lost.

H.M. patrol vessel "Guillemot" shot down a dive-bomber during an attack on the ship by German aircraft which did no damage ; H.M. auxiliary patrol vessel "Gulzar" was sunk by attack from the air.

The Admiralty announced the loss of H.M. destroyer "Wren," sunk through enemy air attack ; in this action H.M. destroyer "Montrose" shot down two enemy bombers. The loss of H.M. trawler "Staunton," sunk by enemy mine, was also announced.

Reports of various air operations in the Mediterranean and in North and North-East Africa were published on this day : two Sunderland flying boats had destroyed three, perhaps four, Italian fighters ; R.A.F. reconnaissances over Libya had accounted for three Italian aircraft, one of ours being lost ; French crews and pilots had co-operated with the R.A.F. in a successful reconnaissance over Abyssinia ; and enemy troops and transport had been bombed near Moyale (Kenya-Abyssinia). In Libya some loss, through Italian air attack, to a patrol of light armoured vehicles was reported.

Two Sea Gladiators of the Fleet Air Arm intercepted three Italian aircraft on this day, shot down one and badly damaged another. One of our machines made a forced landing on the sea, but the pilot was saved.

Blenheim bombers attacked the naval barracks at Assab and the hangars at Macaaca, one bomber failing to return.

Italian aircraft again attacked Aden where four people were killed and fifteen wounded.

At night the R.A.F. continued their attacks upon German territory, although visibility was so low that twenty-four of our aircraft had to return without dropping any bombs, having failed to locate their targets. The remainder bombed oil refineries, shipping, docks, aerodromes and road and rail communications in the Ruhr, North-West Germany and the Low Countries, suffering no loss themselves.

30th July.—During the night enemy aircraft visited South-East, South-West, and North-East England, and some districts of Wales. Houses were damaged and casualties caused, chiefly in South-East England, where some people were killed.

Three enemy aircraft were destroyed around the coasts of Britain during the day.

A daylight raid of the R.A.F. damaged sidings at Ostend, aircraft on the aerodrome at Querqueville (Cherbourg), and hangars and aircraft at St. Inglevert (Boulogne). Gun emplacements on the Norwegian coast, a supply ship off Haugesund, and the naval base at Emden were also attacked. One of our aircraft did not return.

R.A.F. bombers attacked with success military objectives at Massawa (Eritrea) where direct hits were made upon fuel dumps despite fierce ground opposition and adverse weather conditions. Kassala (Sudan), now in Italian hands, was bombed repeatedly.

In the Moyale area (Kenya frontier) at Dobel our ground forces carried out a successful reconnaissance, inflicting considerable loss upon superior enemy forces.

The night operations of the R.A.F. over Germany and German occupied territory were considerably curtailed by bad weather, but successful attacks were made upon oil refineries at Homburg and Monheim, the goods yard at Soest, and on aerodromes at Duisberg, Antwerp and Courtrai. None of our aircraft was lost.

31st July.—In daylight the R.A.F. attacked military objectives in Germany and shipping off the Dutch and German coasts. Our aircraft shot down two enemy fighters during these raids, but one of our bombers failed to return.

The Admiralty announced that H.M. merchant cruiser "Alcantara" had engaged the German raider in the South Atlantic and inflicted much more damage than she received. British losses amounted to two killed and seven wounded.

The loss of H.M. destroyer "Delight," damaged by air-

attack and subsequently sunk, was also announced. There were few casualties to personnel.

In an air encounter near Malta an Italian fighter was shot down. We lost one aircraft, the pilot escaping by parachute.

In the Sudan the R.A.F. continued their attacks upon Italian occupied Kassala, doing severe damage to troops and defences; the Italian aerodromes at Javello (Abyssinia) and Macaaca (Eritrea) were also attacked.

The Government of the U.S.A., it was announced, had banned the exportation of aviation petrol to all nations except those of the Western Hemisphere.

At midnight the extended British blockade covering all Metropolitan France, Algeria, Tunisia, French Morocco, and the Spanish and Portuguese Atlantic islands came into operation.

1st August.—During the night the R.A.F. attacked oil refineries at Misburg and Emmerich, supply depots at Osnabrück, shipping on the Zuyder Zee, and enemy aerodromes in Holland and Germany. Two of our aircraft were lost.

Enemy aircraft dropped bombs at a few points in the neighbourhoods of the Thames estuary and the Bristol channel during the night. Some houses were slightly damaged; no casualties were reported.

Daylight raids were made by the R.A.F. on the aerodromes of Leeuwarden and Haamstede (Holland); also the German occupied aerodrome at Cherbourg; three of our bombers did not return. The Fleet Air Arm successfully bombed a wireless station on the Norwegian coast and badly damaged an enemy supply ship.

During the day enemy aircraft attacked Norwich, where some civilians were killed, and dropped bombs over North-East and South-East England. Two enemy aircraft were shot down over the Channel. One of our fighters did not return from patrol.

In the North Sea, German aircraft repeatedly attacked a convoy, but did no damage. One of the escorting warships, H.M.S. "Weston," shot down one of the enemy. Later S.S. "Highlander" was twice attacked, and on each occasion brought down an enemy aircraft.

H.M. merchant cruiser "Alcantara" put in at Rio de Janeiro to repair damage sustained in action with the German raider in the South Atlantic.

It was announced that the **R.A.F.** had **destroyed two enemy submarines in the Mediterranean during July.**

The R.A.F. carried out a highly successful raid on a large ammunition dump near Bardia (Libya); attacked with effect an oil refinery near Massawa and air bases at Asmara and Guna (Eritrea); and delivered two raids upon Chinele (Abyssinia). One bomber made a forced landing, but on the return journey from Chinele our aircraft engaged an Italian formation and accounted for two of the enemy. The South African Air Force bombed Italian troop concentrations South of Moyale.

An Italian aircraft which attempted to bomb Buna (Kenya) fled on being engaged; an enemy attack on Port Sudan failed, one of his aircraft being shot down.

At night the R.A.F., assisted by French airmen of General de Gaulle's command, attacked successfully oil plants at Gelsenkirchen, Kamen, Homburg and Reisholz, the Krupp works at Essen, supply depots at Hamm, Krefeld and Mannheim, and several aerodromes in North-West Germany. All our aircraft returned safely.

2nd August.—Enemy aircraft dropped a small number of bombs during the night at points in Wales, East Scotland and East Anglia. Damage was small and casualties few. Leaflets containing extracts from Hitler's latest Reichstag speech were dropped in some southern and south-western districts of England.

Daylight raids were made by the R.A.F. on aerodromes in France, Belgium and Holland, hits being scored on hangars and runways, and aircraft on the ground attacked. One of our bombers was lost.

H.M. trawler "Cape Finisterre" was attacked by four enemy aircraft. She shot down one, but received damage from which she afterwards sank.

The Fleet Air Arm made an effective attack upon the Italian aerodrome at Cagliari (Sardinia). In spite of strong opposition, many aircraft were destroyed on the ground: one of our Swordfish type was lost and another made a forced landing in Sardinia. Of the Italian aircraft which attacked the naval escort three, probably four, were shot down and no damage was sustained by any British vessel.

The R.A.F. carried out devastating attacks upon oil depots and aerodromes at Zula, Accico, Asmara and Assab (Eritrea); we suffered no loss, but two Italian fighters went

down out of control. An enemy bomber was shot down over Gedaref (Sudan), and the South African Air Force did considerable damage to the aerodrome at Javello (Abyssinia).

At the North-East end of Lake Rudolf (Kenya-Abyssinia border) our ground forces captured a small Italian post and repulsed a counter-attack, inflicting considerable loss.

At night the R.A.F. bombed the oil depots at Emden, Hamburg, Misburg, Salzbergen and Emmerich, also attacking several German aerodromes. One of our returning bombers was forced down into the sea.

3rd August.—Enemy aircraft dropped bombs on a town in the Bristol Channel area during the night, causing damage to buildings and minor casualties. Bombs dropped on a Welsh town and districts of South-East England and South-East Scotland had little effect.

The R.A.F. harassed German occupied aerodromes in Holland and France, including Schipol, Haamstede and Abbeville, by daylight.

Three highly successful raids were carried out by the R.A.F. on the port and aerodrome of Derna (Libya). Much damage was done to shipping and hangars. French pilots and crews co-operated in reconnaissance flights over the Diredawa district of Abyssinia.

At night the R.A.F. heavily attacked the naval base at Kiel; oil tanks at Rotterdam, and oil plants at Bottrop, Gelsenkirchen, and Monheim. Other targets included aerodromes in Holland and western Germany and railway communications in Westphalia, the Ruhr and the Rhineland. Three of our aircraft did not return.

During the night enemy aircraft were active over the area of the Thames estuary and the East coast of Scotland, bombs being dropped at a number of points and also in Wales. No damage or casualties were reported. More leaflets were dropped in Wales and South-West England.

Britain's home defences continued to grow stronger and better organized. On Saturday the Prime Minister judged it desirable to remind the nation that the possibility of an attempted invasion had by no means passed away. Meanwhile the initiative remained in the hands of the Royal Air Force whose attacks upon military objectives in German and German occupied territory grew in intensity, and of the Royal Navy whose command of the seaways was emphasized by the

extension of the British Contraband Control which became operative at the end of July. Germany's conquests had simplified, as well as enlarged, the problem of preventing sea-borne supplies to neutrals from reaching her or her junior partner; the fullest possible use of "navicerts" and ships' licences was to be made.

The embargo placed by the United States upon the export of aviation petrol was, in fact, a complementary measure to the British blockade, although dictated by purely American interests. As was to be expected, Japan lost no time in lodging a protest.

Anglo-Japanese relations became rather strained by the end of the week; the arrest of a number of British subjects in Japan on charges of espionage and the death of Mr. M. J. Cox under suspicious circumstances while in custody were followed by the detention of certain Japanese in various parts of the British Empire. These suspects might, with justification, have been taken into custody much earlier had it not been the endeavour of our Government to preserve friendly relations with Japan. Japan's openly avowed designs upon the Dutch East Indies, however, indicated that her policy was becoming increasingly advantageous to the Axis Powers.

British action in the African and Mediterranean theatres continued to be hampered by the conditions prevailing in the French overseas possessions where a state of uncertainty still prevailed. From London, General de Gaulle, condemned to death by the Pétain Government, had made repeated appeals to those in authority in the French Colonial Empire to repudiate the armistice terms. The visit of German aircraft to Dakar was, however, a disquieting factor.

It was seen that the ultimate trend of events in the Balkans would depend in the first instance on the fate of Rumania; but the various national aspirations of the Balkan peoples made them unpromising candidates for inclusion in Hitler's "new European order." The Balkan Entente was dead, but German influence and propaganda had little effect upon Turkey. The French Ambassador left Ankara during the week.

In the week ended 21st/22nd July, eleven British (tonnage 37,577), one allied, and six neutral merchant ships were sunk by enemy action. Germany's total loss in merchant tonnage up to the above date was estimated at 908,000, and Italy's 254,000. In addition, about 22,000 tons of neutral shipping had been sunk after passing under enemy control. The extensive troop movements carried out within the Empire since the outbreak of war had involved sea transport between all five Continents, and not one man had been lost by enemy action.

CORRESPONDENCE

[Correspondence is invited on subjects which have been dealt with in the JOURNAL, or which are of general interest to the Services. Correspondents are requested to put their views as concisely as possible, but publications of letters will be dependent on the space available in each number of the JOURNAL.—EDITOR.]

THE VALUE OF TANKS

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—I really do think it is about time we put more thought into the use of tanks and not do our best to belittle their employment, as so many of the articles in the JOURNAL appear to have done up to the present.¹

F.S.B.* and Captain J. M. Lind,* in their articles, appear to have very little imagination in this line. The former's mechanical knowledge must be remarkably meagre.

For the last twenty years I have read and listened to people expostulating on the limitations of the tank and how its day is over. "The golden age of the tank is past," etc.

I hope these pundits are putting a little more thought into their statements now. If only we had got down to a bit of clear thinking instead of labelling every person who wrote in favour of the tank as an "enthusiast in his own arm," we might not have been in such a difficult position as we now find ourselves.

G. W. RICHARDS,

Lieut.-Colonel.

12th June, 1940.

¹ We would invite attention to the Gold Medal Essay, 1936, by Wing Commander J. C. Slessor, R.A.F., published in the JOURNAL of August, 1937, which strongly advocated our going "the extreme animal: the entire pig" in the mechanization of the Army.—EDITOR.

* "Modern Warfare—Mobile or Missile?" in the JOURNAL of November, 1939.

* "Is Mobile Warfare in the West a Myth?" in the JOURNAL of May, 1939.

ARMY CAPS

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

DEAR SIR,—In the interests of historical accuracy as to uniform detail, I beg to draw your attention to an apparent error or confusion of terms appearing in the Army Notes in the May JOURNAL. It is stated that during a visit of H.M. the King, men in battle-dress "raised their forage caps and cheered."

Now I feel certain that these men were actually wearing the field service or fatigue cap, commonly known as "fore and aft," "folding cap," "side cap," etc., and not the forage cap, a term which can only properly be applied to the flat-topped and peaked cap. This confusion is very common in the daily press, and should, I feel, be corrected wherever possible.

I. W. D. STILLWELL,

Captain,

14th June, 1940.

The Queen's Royal Regiment.

Captain Stillwell's observations are justified. There is a good deal of confusion as to the correct designation of the various types of head-dresses in the Army. The following details on this subject have been received from the War Office :—

Service Dress Cap.—Khaki peaked cap, worn with Service dress.

Forage Cap.—Blue (or other colour) peaked cap, normally worn by Household Troops with Service dress and by other troops with undress.

Drab Field Service Cap.—Khaki side cap, worn with battle-dress.

Coloured Field Service Cap.—Coloured variety of above worn on informal occasions.

(Scottish troops and the R.T.R. do not wear a forage cap.)

EDITOR.

NAVY NOTES

GREAT BRITAIN

BOARD OF ADMIRALTY

Following the appointment of Mr. Churchill as Prime Minister, it was announced on 11th May that the King had approved the appointment as First Lord of the Admiralty of Mr. A. V. Alexander.

Sir Victor Warrender and Captain A. U. M. Hudson were subsequently re-appointed as Parliamentary and Financial Secretary and Civil Lord of the Admiralty respectively.

In the *London Gazette* on 31st May, it was announced that the King had been pleased, by Letters Patent under the Great Seal, dated 27th May, to appoint the following to be Commissioners for Executing the Office of Lord High Admiral of the United Kingdom :—

Right Hon. Albert Victor Alexander.
Admiral of the Fleet Sir Dudley Pound, G.C.B., G.C.V.O.
Admiral Sir Charles Little, K.C.B.
Vice-Admiral Bruce A. Fraser, C.B., O.B.E.
Vice-Admiral Geoffrey S. Arbuthnot, C.B., D.S.O.
Vice-Admiral Tom S. V. Phillips, C.B.
Rear-Admiral Harold M. Burrough, C.B.
Vice-Admiral Sir Geoffrey Blake, K.C.B., D.S.O. (Retired),
Captain Arthur J. Power, C.V.O., A.D.C., R.N.
Sir Victor A. G. A. Warrender, Bart., M.C.
Captain Austin U. M. Hudson.
Sir James Lithgow, Bart., M.C., T.D.

FLAG LIST PROMOTIONS

The King has approved the following promotion in the vacancy created by the completion of five years in the rank of Admiral of the Fleet by Lord Chatfield, P.C., G.C.B., O.M., K.C.M.G., C.V.O., D.C.L. :—

Admiral Sir Charles M. Forbes, K.C.B., D.S.O., to be Admiral of the Fleet, to date 8th May, 1940.

In consequence, Vice-Admiral Sir Dudley B. N. North, K.C.V.O., C.B., C.S.I., C.M.G., is promoted to be Admiral in H.M. Fleet, to date 8th May, 1940.

Rear-Admiral Norman A. Wodehouse, C.B., is placed on the retired list and promoted to the rank of Vice-Admiral, retired, to date 8th May, 1940.

Rear-Admiral Bruce A. Fraser, C.B., O.B.E., is promoted to be Vice-Admiral in H.M. Fleet, to date 8th May, 1940.

FLAG APPOINTMENTS

CHINA.—The King has approved the appointment of Vice-Admiral Geoffrey Layton, C.B., D.S.O., to be Commander-in-Chief, China Station, in succession to Admiral Sir Percy Noble, K.C.B., C.V.O., to date 10th July. Vice-Admiral Layton was to leave England on or about 1st August and to assume command about 1st September.

ASSISTANT CHIEF OF NAVAL STAFF.—The King has approved the appointment of Rear-Admiral Henry R. Moore, C.V.O., D.S.O., to be a Lord Commissioner of the Admiralty and Assistant Chief of Naval Staff, in succession to Rear-Admiral Harold M. Burrough, C.B., to date 25th July, 1940. Rear-Admiral Moore was appointed to the "President," additional, for duty inside the Admiralty, to date 25th June, 1940.

HONOURS AND AWARDS

The first V.C. of the war was announced in the *London Gazette* on 7th June, when the decoration was awarded posthumously to the late Captain B. A. W. Warburton-Lee, R.N., commanding the 2nd Destroyer Flotilla in H.M.S. "Hardy," who lost his life in the first Battle of Narvik on 10th April. The award was "for gallantry, enterprise, and daring in command of the force engaged." Mrs. Warburton-Lee received the Cross awarded to her husband from the King at Buckingham Palace on 2nd July.

A list of honours and awards "for good services in organizing the withdrawal to England under fire and in the face of many and great difficulties of 335,490 officers and men of the allied armies, in about 1000 of H.M. ships and other craft between 27th May and 4th June," was issued on 7th June. It included the following:—

K.C.B.—Vice-Admiral Bertram H. Ramsay, C.B., M.V.O., Flag Officer Commanding, Dover.

C.B.—Rear-Admiral W. F. Wake-Walker, O.B.E.; Captain W. G. Tennant, M.V.O., R.N.; and Captain M. M. Denny, R.N. Captain Denny's appointment was also in recognition of his good services as Senior Naval Officer at Aandalsnes during the landing and withdrawal of allied troops.

Awards for daring and outstanding ability in the rescue of the 300 prisoners from the German ship "Altmark" were published on 13th April. Other awards have included the following:—

25TH APRIL.—Rescues from the "Domala," and miscellaneous awards.

10TH MAY.—For Fleet Air Arm and Submarine Service.

26TH JUNE.—For services on the Coast of Norway, on the Dutch Coast, and resource in capturing enemy ships.

29TH JUNE.—For services during the second Battle of Narvik on 13th April.

6TH JULY.—For service in minelaying operations, and on various other occasions, including the award of the D.S.C. to Boatswain W. J. H. Moorman, R.N., commanding H.M.S. "Moonstone," for daring, enterprise and skill in capturing an Italian U-boat of superior gunpower in the Red Sea.

BIRTHDAY HONOURS.—The following were among the awards announced on 10th July in the postponed Birthday Honours List:—

G.C.B.—Admiral of the Fleet Sir Charles Morton Forbes, K.C.B., D.S.O.

K.C.B.—Vice-Admiral Charles G. Ramsey, C.B., Vice-Admiral Thomas H. Binney, C.B., D.S.O., Vice-Admiral G. H. D'Oyly Lyon, C.B., and Vice-Admiral Geoffrey Layton, C.B., D.S.O.

K.B.E.—Admiral H. R. Crooke, C.B. (Retired, serving as Commodore, 2nd Class R.N.R.), Vice-Admiral W. T. R. Ford, C.B.

PERSONNEL

R.N. BARRACKS COMMANDS.—In view of the high importance of the appointments of Commodores of Royal Naval Barracks, and the advantage of maintaining continuity by retaining such officers in their posts when promoted until actually required for appointment as Flag Officers, an Order in Council provides that these officers should continue to serve as Commodores, but receive pay as Rear-Admirals, together with table money of 15s. a day. In the event of a Commodore of R.N. Barracks promoted to the rank of Captain before 7th October, 1931, being placed on the Retired List on promotion to Rear-Admiral during the next few years, he should similarly receive pay as a Rear-Admiral and table money as proposed for an officer remaining on the Active List. The revised emoluments have retrospective effect from 1st August, 1938.

AIR BRANCH PROMOTION.—By Order in Council dated 19th June, 1940, steps were taken to introduce a system for the promotion of ratings to Commissioned rank in the Air Branch of the Royal Navy. Officers promoted from the lower deck to Commissions in this branch are to serve under the same conditions as officers similarly promoted in the Executive and Engineering Branches. They are to be eligible for retired pay, etc., under the regulations applicable to officers of corresponding rank promoted from cadets, except that they will not be eligible to retire voluntarily with gratuities when under the age of 40.

NAVAL PATROL SERVICE.—The King has approved the institution of a silver badge for award to all officers and men of the Royal Naval Patrol Service, including R.N. and R.N. pensioners, R.F.R., R.N.R., R.N.V.R., and R.N.V. (W) R. personnel, and those who have enlisted for hostilities only since the outbreak of war, employed in minesweeping and anti-submarine craft in home waters manned from the Patrol Service Central Depot, Lowestoft. These officers and men will normally be eligible for the badge after six months' service, but in special circumstances it may be awarded sooner. It will be worn on the left arm in uniform, or on the lapel of a plain clothes coat after the war.

YACHTSMEN FOR R.N.V.R.—The Admiralty announced on 15th May that a limited number of temporary commissions in the Executive Branch of the R.N. Volunteer Reserve are available for experienced yachtsmen between the ages of 30 and 40. Candidates are required to possess a knowledge of navigation equivalent to that required for the Board of Trade Yachtmasters (Coastal) Certificate. Where candidates are in actual possession of the certificate they may apply if they are of the age of 27 upwards. The Admiralty are prepared also to consider applications from men between the ages of 40 and 45 with great experience of yachting. Application forms may be obtained from the Secretary of the Admiralty (CW/Y), Grosvenor Gardens House, S.W.1. Candidates will be required to pass a medical examination and to be fit in all respects.

CAP COVERS.—An Admiralty order directs that white caps or cap covers are not to be worn by officers and men on shore in the United Kingdom or on board H.M. ships in home waters during the War.

CAR PERMITS.—The Admiralty have issued instructions for the guidance of members of the Naval Service who desire to obtain "leave permits" for the use of an unlicensed motor car or cycle when on leave not exceeding 21 days in the United Kingdom from service outside it. These leave permits, which cost 10s. for a car and 2s. for a cycle, are issuable only to the person in whose name the vehicle was last registered. They carry with them petrol coupons for 300 miles, but cannot be issued more than twice in a year. Insurance in the ordinary way is a necessity.

WATCH COMPENSATION.—An addition to the provisions regarding compensation to members of the Naval Service for the loss of personal effects as a result of action damage stipulates that not more than £1 will be paid for the loss or damage of a watch.

COMFORTS.—The Depot for knitted garments for the Royal Navy has moved to larger premises at 97, Eaton Square, S.W.1.

RIVER PLATE ACTION

An official account of the battle of the River Plate on 13th December, 1939, was published at the beginning of June, price 2d. It is a White Paper of 16 pages, of which three are occupied by charts, and illustrates in detail the movements of the three British cruisers and the German battleship "Admiral Graf Spee."

H.M. COASTGUARD

By an order dated 26th May, 1940, made by the Admiralty under Section II of the Coastguard Act, 1925, it is provided that, an emergency having arisen which in the opinion of the Admiralty renders it advisable that H.M. Coastguard shall be placed under the control of the Admiralty, the management and control of this force shall be transferred to the Admiralty from 28th May, 1940. The order was signed by the Second and Fourth Sea Lords.

WOMEN'S ROYAL NAVAL SERVICE

The Duchess of Kent, Commandant of the Women's Royal Naval Service, on 9th May visited the R.N. College, Greenwich, where she inspected the officers and ratings attending the W.R.N.S. officers' training course.

On 23rd May, Her Royal Highness visited naval establishments at Devonport, and on the following day inspected units of the W.R.N.S. at that port.

On 19th June, the Duchess of Kent visited Dover and inspected units of the W.R.N.S. there. Four Wrens who were in the same service in the last war were presented to her.

On 26th June, the Duchess visited Portsmouth to inspect members of the Service. A contingent assembled for inspection outside Admiralty House, and Her Royal Highness also saw members at Royal Marine Headquarters, the Royal Naval Barracks, and at Naval air stations.

LOSS OF THE "THETIS": INQUIRY REPORT

The Report of the public enquiry held by Mr. Justice Bucknill into the circumstances attending the loss of H.M. submarine "Thetis" in Liverpool Bay on 1st June, 1939, was published on 5th April.

In a summary of the cardinal facts it stated that the "Thetis," with 103 men on board, sank at about 3 p.m. while engaged in the operation of a trial dive. The immediate cause of the casualty was the opening of the rear door of No. 5 torpedo tube when the bow cap was open to the sea.

About 7.50 a.m. on 2nd June, H.M.S. "Brazen" and the s.s. "Vigilant," while searching for the "Thetis," sighted her stern above sea level. Shortly afterwards Captain Oram and Lieutenant Woods, and about two hours afterwards, Leading Stoker Arnold and Mr. Frank Shaw—a charge hand engineer fitter of Cammell, Laird & Co., the builders—came to the surface, using the Davis escape apparatus, and were picked up. Attempts were made to save the ship and to save the lives of those on board, but about 3.10 p.m. her stern sank and disappeared.

At least six facts acting in sequence produced the full extent of this disaster:—

- (1) The complete blocking of the test cock in the rear door of No. 5 torpedo tube with bitumastic enamel.
- (2) The opening of the rear door at a time when the bow cap of the tube was open to the sea. The precise moment when the bow cap was opened is the critical and most obscure point in the case.
- (3) The inability, in spite of plucky attempts by those on board the "Thetis," to close effectively the port watertight door in the bulkhead between the torpedo tube compartment and the torpedo stowage compartment.
- (4) Inability to expel the water from the two flooded compartments.
- (5) The failure of those outside the "Thetis" to render effective assistance.
- (6) The inability of those on board the "Thetis" to escape by the Davis escape apparatus.

In regard to (1), Mr. Justice Bucknill observes:—

"By some perverse mishap the enameller did not take sufficient care to see that the test cock hole was kept clear of bitumastic, the Admiralty overseer did not use the rimer, Lieutenant Woods—Torpedo Officer of the vessel, who opened the rear door of No. 5 tube—did not use it, nor anyone else from 15th May to 1st June. In the Royal Navy no routine was specifically laid down about clearing the test cock holes of the rear doors."

In regard to (2), the opening of the rear door, when the bow cap was open to the sea, the President expressed himself satisfied that Lieutenant Woods examined the indicators and saw that No. 5 indicator was showing "shut," and he discusses various hypotheses to account for the bow cap being opened between then and the opening by Lieutenant Woods of the rear door without definitely declaring for any one of them.

In his final observations, the President shows that the absence of so many who, if they were alive, might be able to explain the precise reasons for the initial disaster and the subsequent course of events in the "Thetis" leaves much which is doubtful and obscure. But there was nothing doubtful about the way all on board behaved, and the Report endorses the tribute of Captain H. P. K. Oram, Commanding the 5th Submarine Flotilla, to their gallant conduct.

ROYAL MARINES

General Sir William W. Godfrey, K.C.B., C.M.G., has been appointed to be Honorary Colonel Commandant, Plymouth Division, to date 14th May, 1940.

DOMINIONS

AUSTRALIA

H.M.A.S. "SYDNEY."—The Prime Minister sent a message of congratulation to Mr. Menzies, Prime Minister of Australia, upon the brilliant action fought by H.M.A.S. "Sydney" in the Mediterranean on 19th July, resulting in the destruction of the Italian cruiser "Bartolomeo Colleoni." The action recalled, said Mr. Churchill, the most opportune exploit of her predecessor in sinking the "Emden" in the last War.

The King has appointed Captain John A. Collins, R.A.N., commanding the "Sydney," to be a Companion of the Order of the Bath. On 22nd July, he was made a Freeman of the City of Sydney.

Mr. Cameron, Minister for the Navy, announced on 22nd July that the Australian destroyer "Voyager" had sunk an Italian submarine.

CANADA

Details of the rapid expansion of the Royal Canadian Navy, which were mentioned by the Prime Minister of Canada on 4th June, showed that it had been possible for some Canadian destroyers to be transferred across the Atlantic, where their services could at the moment be utilized to better advantage. Their places in Canadian waters are being taken by other ships.

The personnel of the Navy, which before the war numbered about 1700 officers and men, apart from reserves, had been increased to between 6000 and 7000. Suitable vessels had been taken over and equipped for minesweeping and anti-submarine duties, and many more had been put in hand in the shipyards, of which there are 15. The £10,000,000 construction programme provides for 100 vessels, and high-speed motor torpedo boats are being built in addition. In the near future the Canadian Navy will include no fewer than 220 vessels.

NEWFOUNDLAND

A further batch of 155 naval recruits from Newfoundland arrived in England at the beginning of June. This brought the total of Newfoundlanders in the Royal Navy to 1250, of whom 625 were experienced boatmen.

BARBADOS

Thirty-three Barbadian seamen have joined the British Merchant Navy and have volunteered for work in the North Sea. Many other Barbadians are serving in British and Canadian ships.

FOREIGN FRANCE

BRITISH ACTION AGAINST THE FRENCH FLEET.—In a statement in the House of Commons on the 4th July describing the action which had to be taken by the Royal Navy to prevent the French fleet falling into the hands of the enemy, the Prime Minister said that early on the morning of 3rd July we took the greater part of the French fleet under our control or else called upon them with adequate force to comply with our requirements. Two battleships, two light cruisers, some submarines, including the "Surcouf," eight destroyers, approximately two hundred smaller but extremely useful mine-sweeping craft, lying mostly at Portsmouth and Plymouth, but some at Sheerness, were boarded by superior forces.

The operation was successfully carried out without resistance except in the case of the "Surcouf," where, owing to a misunderstanding, one British seaman was killed, two British officers and one rating wounded, and one French officer killed and one wounded.

The Admiral commanding the French units lying at Alexandria, which included a battleship, four cruisers—three of them of the 8-in. gun type, and a number of small ships, was informed that measures had been taken to ensure that they would not leave harbour and thus fall into the hands of Germany.

The Admiral commanding the French forces at Oran was given the following alternatives: (a) to sail with us and continue to fight for victory against the Germans and Italians; (b) to sail with reduced crews under our control to a British port; (c) to sail with us with reduced crews to some French port in the West Indies where the ships could be demilitarized, or perhaps entrusted to the United States until the end of the war. Failing compliance with these "fair offers" his ships would have to be sunk within six hours. These proposals having been rejected, the British force under Admiral Somerville was compelled to use force. At 5.53 p.m. he opened fire, and by 6 p.m. was heavily engaged with the French fleet and shore batteries. Our attack was started by the naval aircraft carried in H.M.S. "Ark Royal." At 7.20 p.m. Admiral Somerville reported that a battle cruiser of the "Strasbourg" class was damaged and ashore, a battleship of the "Bretagne" class had been sunk, and another of the same class heavily damaged; that two French destroyers and the seaplane carrier "Commandante Teste" were sunk or burnt; the battle cruiser "Strasbourg" escaped and reached Toulon, but en route she was attacked by aircraft of the Fleet Air Arm and was hit by at least one torpedo which would put her out of action for many months to come.

Throughout this action the Italian fleet, which we had prepared to encounter, was conspicuous by its absence.

ATTACK AGAINST THE "RICHELIEU."—On the 8th July the Commanding Officer of the new French battleship "Richelieu" lying off Dakar, Senegal, was given similar alternatives to those presented to the French Admiral at Oran. No satisfactory reply having been received, in the early hours an attack was made on the ship by a ship's boat in charge of Lieutenant-Commander Bristow, R.N., which succeeded in getting through the boom defences and dropping depth charges under the "Richelieu's" stern with the object of damaging her propellers and steering gear. This attack was followed by aircraft from the Fleet Air Arm which launched a number of torpedoes into the battleship. Subsequent air reconnaissances were able to report that the "Richelieu" had a list to port and was down by the stern and a large quantity of oil covered the water round the ship.

DEMILITARIZATION OF WARSHIPS AT ALEXANDRIA.—On the 8th July it was

reported that an agreement had been come to with the French naval authorities at Alexandria whereby the French warships there are placed in a condition in which they cannot go to sea. Certain parts of their armament would be taken ashore and placed in charge of the French authorities there; the crews would be reduced to care and maintenance parties, the remainder being sent to Syria and thence to France. The ships would be returned to the French at the end of the war.

DISPOSITION OF THE FRENCH NAVY.—The following is the disposition of the French navy as a result of the British action:—

Capital Ships ... "Jean Bart" (Loire) afloat, but not due for completion till 1941.

"Richelieu" (Dakar) out of action.

"Dunkerque" (Oran) out of action.

"Strasbourg" (Toulon) badly damaged.

"Provence" (Oran) badly damaged.

"Bretagne," sunk.

"Lorraine," "Courbet" and "Paris," demilitarized—two at British ports, one at Alexandria.

Seaplane Carrier ... "Commandante Teste," sunk.

Cruisers ... Two light cruisers reported to be at British ports and three heavy and one light cruiser at Alexandria.

Destroyers ... Eight, and eight torpedo boats in British ports; two destroyers, including the 3500-ton "Mogador," sunk.

EARLIER LOSSES.—In the course of the withdrawal from Dunkirk the destroyers "Chacal" and "Jaguar" of 2126 tons, the "Foudroyant," 1378 tons, "Bourrasque," "Ouragan" and "Siroco" of 1319 tons were lost.

During the operations on the Dutch and Belgian coasts in May the destroyer "L'Adroit," 1378 tons, and the submarine "Doris" of 552 tons, were sunk.

In March the destroyer "La Raillieuse," 1378 tons, was reported to have been sunk by an internal explosion off Casablanca.

GERMANY

MAJOR SHIPS.—The loss of the armoured ship "Von Spee" and the damage caused to the battle cruiser "Scharnhorst" by repeated bombing have seriously reduced the enemy's main fleet, which now consists of the 35,000-ton battleships "Bismark" and "Tirpitz" building; the battle cruiser "Gneisenau," and the armoured ships "Lutzow" and "Scheer." It has been reported that a ship of the latter class was also damaged.

Of the three first 10,000-ton 8-in. cruisers, the "Blücher" was sunk outside Oslo on 9th April. Of the six light cruisers which formed the nucleus of Germany's new post-war navy, the "Königsberg" is believed to have been sunk by British submarines on 18th December, 1939, and the "Karlsruhe" off Christiansand on 9th April this year.

DESTROYER LOSSES AT NARVIK.—The destroyers lost in the first attack on Narvik on 1st April were the "Anton Schmitt" and "Wilhelm Heidkamp." In the second battle on 13th April the "Hans Ludmann," "Hermann Kunne," and "Diether von Roede" were put down. These were the first six ships of the 1936 programme laid down in 1936-38. They were of the new type of large destroyer displacing 1811 tons, carrying five 5-in., four 3.7-mm. A.A. guns, and eight 21-in. tubes. They had a speed of 36 knots. In the latter action, the 1625-ton destroyers

"Bernd von Arnim," "Erich Giese," "Erich Koellner" and "Wolfgang Zenker," all laid down in 1934-35, were sunk or destroyed by the British attack.

Two other destroyer losses which the Germans have admitted are the "Leberecht Maass" and "Max Schultz," also of the 1625-ton class. It is probable that there have been other losses, bringing the total up to about half the German flotilla of destroyers.

MOTOR TORPEDO BOATS.—It is evident that Germany is making increasing use of motor torpedo boats, known to them as "S" and to us as "E" Boats. Some details of these given in the latest edition of *Jane's Fighting Ships* include, displacement, 62 tons; length, 93 feet; armament, two 19.7-in. tubes mounted forward, and one 1-pounder A.A. gun mounted aft. They have Diesel or Daimler-Benz petrol engines, and are credited with a speed of 30-36 knots. At least thirty were built or building at the outbreak of war, and it is probable that the number has been increased since.

ITALY

CRUISER SUNK.—The cruiser "Bartolomeo Colleoni" was sunk by H.M.A.S. "Sydney" in an action in the Eastern Mediterranean on 19th July.

The "Bartolomeo Colleoni" was a vessel of 5069 tons carrying eight 6-in. guns built in 1930. She was in company with another cruiser at the time, whereas the "Sydney" had only a small destroyer escort. The other cruiser escaped. The "Sydney" displaces 6830 tons and mounts eight 6-in. guns.

SUBMARINE LOSSES.—Up to the end of July, the Italians were reported to have lost 18 submarines.

UNITED STATES

NEW BUILDING PROGRAMMES.—The Naval Appropriations Bill for 1940-41, having been whittled down by about \$1,000,000, was approved by the House of Representatives on 16th February at \$966,772,878. It provided for the construction of nineteen new vessels, including two 45,000-ton battleships and 352 aircraft. A two-year building programme, endorsed by the President, in March last provided for the construction of twenty-one new warships and an expansion of the naval air arm.

On 28th May, however, the President announced the formation of a National Defence Commission to supervise the new armaments programme; and on 6th June Congress finally approved a Naval Appropriations Bill amounting to \$1,492,000,000.

The outcome of these appropriations is that orders have been allotted for three aircraft carriers of 26,000 tons; four heavy and nine light cruisers; thirty destroyers and twenty-two submarines. It seems unlikely, however, that any of these ships can be started before 1941.

A further programme has also been approved which authorizes the construction of three further aircraft carriers, twelve cruisers, forty-one destroyers and twenty-eight submarines.

NEW BATTLESHIPS.—The 35,000-ton battleship "Washington" was launched at Philadelphia on 1st June; and a sister-ship, the "North Carolina" at Brooklyn Navy Yard on 13th June. They are the first battleships to be built for the United States for nineteen years.

Some details of this class will be found in the article on "The United States Navy," p. 437 of this JOURNAL.

ARMY NOTES

HIS MAJESTY THE KING

The King has carried out lately numerous inspections of portions of the Army in this country. On 10th April, 1940, His Majesty reviewed the garrison at Dover, a fortress which played its part in the troublous times of Napoleon, when the Kingdom was last threatened with invasion, and has lately found itself "in the news" again. The King was received by the Lord Warden of the Cinque Ports (Lord Willingdon) and the Garrison Commander. No reigning Sovereign had entered the Castle on an official visit since the days of George III.

In May, The King and Queen visited troops in Dorsetshire and inspected separately regiments of which they are the Honorary Colonels. A Division of all arms was inspected by His Majesty on 14th June in the West of England. This formation, which included Regiments of Guards, was one of those evacuated from Dunkirk with the B.E.F. The King conferred decorations on several officers for distinguished conduct and bravery during the retreat to Dunkirk.

The King and Queen have visited the Canadian Forces in training in the Aldershot Command on two occasions during the period under review. On the second occasion, 8th June, The King was received by Major-General A. G. L. McNaughton, G.O.C. Canadian Forces, and by Major-General G. T. Raikes, G.O.C. Aldershot Command, when he arrived at the camp where the troops were under canvas. Here an infantry machine-gun regiment, the Toronto Scottish, of which The Queen is Colonel-in-Chief, was inspected while engaged in field training. Visits were also paid to two infantry brigades, which were drawn up in hollow square. After they had been inspected, the officers and men all wearing battle-dress, removed their caps and gave three cheers for Their Majesties. Artillery regiments, units of the Royal Canadian Engineers, R.C.A.S.C. and R.C.A.M.C. were visited in other parts of the Command. Major-General McNaughton assured The King that the troops under his command were fully "battle-worthy"; The King, he said, had been quick to note the progress, which steady training had brought about.

The King and Queen have sent congratulations to Major-General McNaughton, commanding the Canadian troops, for the manner in which the Canadians mounted guard at Buckingham Palace and St. James's Palace. Their message was as follows:—

"The King and Queen as Colonels-in-Chief of the Royal 22nd Regiment and Toronto Scottish have been proud to see the admirable manner in which their regiments have carried out their duties on King's guard during the last week, and highly congratulate all ranks."

The Royal 22nd Regiment, French-Canadian troops recruited from Quebec, mounted guard from 17th to 20th April, and were relieved for a further period of four days by the Toronto Scottish. The Royal 22nd Regiment made history for this was the first occasion that troops of the British Empire, not of purely British descent and not speaking English as their mother tongue, have mounted guard at Buckingham Palace and St. James's Palace. Moreover, the officers of the Royal

22nd Regiment, who were messing in St. James's Palace, gave the Royal Toast in French. Not since Norman times, it is believed, has The King of England been toasted by his Guards as "Le Roi."

AIDES-DE-CAMP.—His Majesty has been graciously pleased to approve of the following appointments as Aides-de-Camp.

Colonel (temporary Brigadier) A. T. Miller, M.C. ; 24th February, 1940.

Colonel (temporary Brigadier) G. E. M. Whittuck, M.C. ; 6th March, 1940.

Colonel (temporary Brigadier) W. H. G. Baker, D.S.O., O.B.E., I.A. ; 1st April, 1940.

Brevet Colonel (temporary Brigadier) E. C. P. Plant, D.S.O., O.B.E., Australian Staff Corps ; 13th October, 1939.

COLONELS COMMANDANT.—The King has been pleased to approve of the following appointments :—

To be Colonel Commandant, Royal Horse Artillery :—General Sir Robert Gordon-Finlayson, K.C.B., C.M.G., D.S.O., Colonel Commandant, Royal Artillery, with effect from 3rd November, 1940.

To be Colonels Commandant, Royal Artillery :—Lieut.-General R. H. Carrington, C.B., D.S.O. (at present Governor of Edinburgh Castle) ; 21st February, 1940 ; Lieut.-General Sir Ronald Adam, C.B., D.S.O., O.B.E. ; 5th September, 1940 ; Major-General F. A. Wilson, C.B., C.M.G., D.S.O. ; 3rd November, 1940 ; Major-General Sir Horace de C. Martelli, K.B.E., C.B., D.S.O. ; 25th December, 1940.

To be Colonels Commandant, Corps of Royal Engineers :—Lieut.-General Sir J. Ronald E. Charles, K.C.B., C.M.G., D.S.O., to be Chief Royal Engineer ; 23rd April, 1940.

Major-General G. H. Addison, C.B., C.M.G., D.S.O., to be Colonel Commandant.

Major-General (Acting Lieut.-General) W. G. S. Dobbie, C.B., C.M.G., D.S.O., to be Colonel Commandant ; 19th March, 1940.

Major-General (local Lieut.-General) D. S. Collins, C.B., D.S.O., to be Colonel Commandant ; 30th March, 1940.

Major-General H. S. Gaskell, C.B., D.S.O., to be Colonel Commandant ; 17th May, 1940.

To be Colonels Commandant of Regiments :—Major-General R. J. Collins, C.B., C.M.G., D.S.O., to be Colonel, The Royal Berkshire Regiment ; 6th April, 1940.

Colonel C. L. M. Matthews, D.S.O., to be Colonel, The Durham Light Infantry.

Colonel J. H. Mackenzie, C.M.G., D.S.O., to be Colonel, The Royal Scots (The Royal Regiment) ; 22nd July, 1940.

MOST HONOURABLE ORDER OF THE BATH.—General Viscount Gort, V.C., K.C.B., C.B.E., D.S.O., M.V.O., M.C., Commander-in-Chief, British Expeditionary Force, to be Additional Member of the Military Division of the First Class.

SECRETARY OF STATE FOR WAR.—Mr. Anthony Eden was appointed Secretary of State for War by Mr. Winston Churchill, the Prime Minister of the new All-Party Coalition Government, with effect from 11th May, 1940.

THE ARMY COUNCIL

The composition of the Army Council has varied considerably since the outbreak of the war. The present membership is as follows :—

The Right Honourable Anthony Eden, M.C., M.P., Secretary of State for War (President of the Army Council).

Brigadier-General Lord Croft, C.M.G., Under-Secretary of State for War (Vice-President of the Army Council).

General Sir John G. Dill, K.C.B., C.M.G., D.S.O., Chief of the Imperial General Staff.

Lieut.-General H. C. B. Wemyss, D.S.O., M.C., Adjutant General to the Forces.

Lieut.-General Sir Walter K. Venning, K.C.B., C.M.G., C.B.E., M.C., Quarter-Master-General to the Forces.

Lieut.-General Sir Robert Haining, K.C.B., D.S.O., Vice-Chief of the Imperial General Staff.

Lieut.-Colonel Sir Edward Grigg, K.C.M.G., K.C.V.O., D.S.O., M.C., Under-Secretary of State for War.

R. K. Law, Esq., M.P., Financial Secretary of the War Office.

R. J. Sinclair, Esq., Director-General of Army Requirements.

Sir James Grigg, K.C.B., K.C.S.I., Permanent Under-Secretary of State for War (Secretary of the Army Council).

PROMOTIONS AND APPOINTMENTS

The War Office has announced the following promotions and appointments :—

Lieut.-General Sir Maurice G. Taylor, K.C.B., D.S.O., to be General; 19th February, 1940.

The undermentioned Colonels to be Major-Generals :—Acting Major-General A. E. Percival, D.S.O., O.B.E., M.C.; 5th February, 1940.

Acting Major-General R. H. Allen, M.C.; 10th January, 1940.

Acting Major-General H. O. Curtis, D.S.O., M.C.; 1st January, 1940.

Acting Major-General A. F. Smith, D.S.O., M.C.; 1st October, 1939.

Major-General L. H. K. Finch, D.S.O., O.B.E., to be Deputy Adjutant-General; 12th March, 1940.

Colonel (Acting Major-General) H. B. D. Willcox, D.S.O., M.C., to be Major-General; 9th March, 1940.

Lieut.-General (local General) Sir Archibald P. Wavell, K.C.B., C.M.G., M.C., to be Commander-in-Chief.

Major-General G. de C. Glover, D.S.O., M.C., to be a Director; 6th April, 1940.

Colonel (temporary Brigadier) L. H. Williams, M.C., to be Director with acting rank of Major-General; 16th March, 1940.

Lieut.-General C. J. E. Auchinleck, C.B., C.S.I., D.S.O., O.B.E., I.A., to be G.O.C.-in-Chief, Southern Command; 20th July, 1940.

Major-General (now Lieut.-General) A. B. Haig, C.B., M.C., I.A., to be acting Lieut.-General whilst employed as Quartermaster-General in India; 16th March, 1940.

Colonel (temporary Brigadier) H. Macdonald, D.S.O., I.A., to be Major-General ; 16th March, 1940.

Major-General H. Needham, C.B., C.M.G., D.S.O. (Reserve of Officers), to be specially employed ; 10th April, 1940.

Major-General W. G. S. Dobbie, C.B., C.M.G., D.S.O., to be acting Lieut.-General whilst specially employed.

Lieut.-General M. G. H. Barker, C.B., D.S.O., to be specially employed ; 22nd April, 1940.

Lieut.-General Sir Roger C. Wilson, K.C.B., D.S.O., M.C., I.A., to be General ; 1st April, 1940.

Major-General H. J. Huddleston, C.B., C.M.G., D.S.O., M.C., to be G.O.C., Northern Ireland District, with local rank of Lieut.-General ; 20th June, 1940.

Major-General R. V. Pollok, C.B.E., D.S.O., to be Commander ; 29th April, 1940.

Colonel (temporary Brigadier) E. C. A. Schreiber, D.S.O., to be Commander, with acting rank of Major-General ; 26th April, 1940.

Major-General R. T. Snowden-Smith, C.B.E., M.I.Mech.E., to be Director, Supply and Transport ; 15th May, 1940.

General Sir John G. Dill, K.C.B., C.M.G., D.S.O., to be specially employed ; 22nd April, 1940.

Major-General E. O. Lewin, C.B., C.M.G., D.S.O. (Reserve of Officers) to be Major-General I/C Administration ; 20th April, 1940.

Major-General A. E. Percival, D.S.O., O.B.E., M.C., to be specially employed ; 22nd April, 1940.

Major-General D. F. Anderson, C.B., C.M.G., D.S.O., to be specially employed ; 14th May, 1940.

Colonel (temporary Brigadier) E. D. H. Tollemache, D.S.O., M.C., A.D.C., to be Commander with acting rank of Major-General ; 20th April, 1940.

Colonel (temporary Brigadier) A. E. Williams, D.S.O., M.C., to be Commander, with acting rank of Major-General ; 10th May, 1940.

General Sir W. Edmund Ironside, G.C.B., C.M.G., D.S.O., A.D.C., to be Commander-in-Chief, Home Forces ; 27th May, 1940.

General Sir John G. Dill, K.C.B., C.M.G., D.S.O., to be Chief of the Imperial General Staff ; 27th May, 1940.

Colonel (temporary Brigadier) A. I. Macdougall, D.S.O., M.C., A.D.C., to be acting Major-General ; 5th June, 1940.

Major-General F. V. B. Witts, C.B.E., D.S.O., M.C., to be Commander ; 11th May, 1940.

Colonel (Hon. Brigadier-General) E. L. Spears, C.B., C.B.E., M.C., M.P., to be local Major-General ; 26th May, 1940.

Colonel (acting Brigadier) K. C. Appleyard, O.B.E., M.I.Mech.E., to be local Major-General ; 26th May, 1940.

Colonel (temporary Brigadier) H. B. W. Hughes, D.S.O., O.B.E., to be acting Major-General ; 15th April, 1940.

Lieut.-General Sir Geoffrey W. Howard, K.C.B., C.M.G., D.S.O., to be Commander; 16th May, 1940.

Major-General M. S. Brander, C.B., O.B.E., M.I.Mech.E., to be Major-General I/C Administration, Eastern Command; 15th May, 1940.

Major-General G. T. Raikes, C.B., D.S.O., to be G.O.C. Aldershot Command; 21st May, 1940.

Colonel C. A. E. Cadell, M.C., to be Commander, with acting rank of Major-General; 28th May, 1940.

Colonel (local Major-General) the Hon. T. P. P. Butler, D.S.O., to be District Commander, India; 18th May, 1940.

General Sir Robert Gordon-Finlayson, K.C.B., C.M.G., D.S.O., to be G.O.C.-in-Chief, Western Command; 10th June, 1940.

Lieut.-General Sir Ronald F. Adam, Bt., C.B., D.S.O., O.B.E., to be G.O.C.-in-Chief, Northern Command; 8th June, 1940.

Major-General B. C. T. Paget, D.S.O., M.C., to be specially employed; 31st May, 1940, with acting rank of Lieut.-General, 5th June, 1940.

Major-General Hon. H. R. L. G. Alexander, C.B., C.S.I., D.S.O., M.C., to be specially employed with acting rank of Lieut.-General; 8th June, 1940.

Major-General A. F. A. N. Thorne, C.B., C.M.G., D.S.O., to be specially employed with acting rank of Lieut.-General; 8th June, 1940.

Major-General H. C. B. Wemyss, D.S.O., M.C., to be Adjutant-General to the Forces with acting rank of Lieut.-General; 10th June, 1940.

Colonel (acting Major-General) H. Finnis, M.C., I.A., to be Major-General; 23rd April, 1940.

Major-General H. R. S. Massy, D.S.O., M.C., to be Commander, and to retain acting rank of Lieut.-General; 19th April, 1940.

Major-General J. R. M. Minshull-Ford, C.B., D.S.O., M.C., to be G.O.C.; 7th June, 1940.

Colonel (acting Major-General) A. Carton de Wiart, V.C., C.B., C.M.G., D.S.O., to be Commander and to retain acting rank of Major-General; 14th May, 1940.

Colonel (temporary Brigadier) S. C. M. Archibald, M.C., to be Major-General, R.A., with acting rank of Major-General; 5th June, 1940.

Major-General LL. I. G. Morgan-Owen, C.B., C.M.G., C.B.E., D.S.O., to be Lieutenant-Governor, the Royal Hospital, Chelsea; 15th May, 1940.

General Sir Henry C. Jackson, K.C.B., C.M.G., D.S.O., to be G.O.C.-in-Chief, Western Command; 28th May to 9th June, 1940.

Major-General T. G. G. Heywood, O.B.E., to be Commander; 20th May, 1940.

Major-General L. H. K. Finch, D.S.O., O.B.E., to be Commander; 9th June, 1940.

Colonel (acting Major-General) R. B. Pargiter, to be Director, with acting rank of Major-General; 28th May, 1940.

Lieut.-General Sir C. Clement Armitage, K.C.B., C.M.G., D.S.O., to be General; 8th June, 1940.

Major-General F. P. Nosworthy, C.B., D.S.O., M.C., to be Commander with acting rank of Lieut.-General; 31st May, 1940.

Colonel (temporary Brigadier) J. C. Tilly, D.S.O., M.C., to be Commander, with acting rank of Major-General; 10th May, 1940.

Colonel (temporary Brigadier) N. M. S. Irwin, D.S.O., M.C., to be Commander, with acting rank of Major-General; 20th May, 1940.

Colonel (temporary Brigadier) K. A. N. Anderson, M.C., to be Commander, with acting rank of Major-General; 13th June, 1940.

Lieut.-General R. H. Haining, C.B., D.S.O., to be Vice-Chief of the Imperial General Staff; 27th May, 1940.

Lieut.-General G. J. Gifford, C.B., D.S.O., to be G.O.C. West Africa; 3rd July, 1940. This appointment is a new one and the command will embrace Nigeria, Gold Coast, Sierra Leone, and Gambia.

General Sir W. Edmund Ironside, G.C.B., C.M.G., D.S.O., A.D.C. General to the King, to be Field-Marshal; 20th July, 1940.

General The Viscount Gort, V.C., G.C.B., C.B.E., D.S.O., M.V.D., M.C., to be Inspector-General to the Forces for Training; 20th July, 1940.

Lieut.-General Sir Alan F. Brooke, K.C.B., D.S.O., to be Commander-in-Chief, Home Forces, with acting rank of General; 20th July, 1940.

SIMPLIFICATION OF ARMY PROCEDURE

A standing Committee has been set up under the chairmanship of Sir James Grigg, Permanent Under-Secretary of State for War, to consider the present administrative organization and procedure of the War Office and of the Army Commands with a view to introducing such changes of organization and simplification of procedure as are necessary to give the elasticity which war-time conditions demand.

The members of the committee are :—

Sir Percy Bates, Chairman of the Cunard White Star, Limited.

Mr. G. W. Dunkley, Irak Petroleum Company.

Lieut.-General Sir Robert Haining, Vice-Chief of the Imperial General Staff.

Mr. R. J. Sinclair, Director-General of Army Requirements.

General Sir Walter Venning, Q.-M.-G. to the Forces.

Lieut.-General H. C. B. Wemyss, Adjutant-General to the Forces.

Special attention is to be given to the timing of any changes so as to ensure that there shall be no dislocation or interruption of the war effort.

OFFICERS

OFFICERS' EMERGENCY RESERVE.—The Army Officers' Emergency Reserve, which was closed last November to enable the overwhelming numbers of applicants to be dealt with, has been re-opened on a limited age basis.

Until further notice the upper age limit is 50, except for qualified engineers, when it is 55. The lower age limit has been raised from 31 to 37, but applications may still be entertained from those between 31 and 36 who are ex-officers, or in reserved occupations for whose services, in their technical or professional capacity, the Army has need, or holders of Certificates A, B, or C (entitling them by reason of military training to be considered for a commission) with civilian managerial or executive experience.

Applications from those who are eligible should be submitted in writing to the

Under-Secretary of State, The War Office (A.G. 12), Thames House, Millbank, London, S.W.1.

EMPLOYMENT BUREAU FOR EX-OFFICERS OF THE REGULAR ARMY.—The Employment Bureau for ex-Officers of the Regular Army, of which The King is patron, is under the Adjutant-General to the Forces. General Sir Robert Gordon-Finlayson, before relinquishing the Adjutant-Generalship, expressed the hope that all commanding officers of corps and units would bring to the notice of officers under their command a pamphlet prepared by the bureau and that all ex-Regular officers, whether seeking employment or not, would interest themselves in the Bureau's work. The pamphlet gives advice on preparation for civil employment before passing out of the Army. Attached to the Bureau is an advisory panel of business men. The address is Watergate House, York Buildings, Adelphi, W.C.2.

The Adjutant-General desires to have a register of the names and addresses of all retired officers of the Regular Army, both British and Indian, living in the United Kingdom, and to keep the information up to date. This register is being compiled at Watergate House. Names should not be sent direct to the Adjutant-General.

ORGANIZATION AND MAN POWER

"IRONSIDES."—General Sir Edmund Ironside, then G.O.C.-in-C., Home Forces, has organized for home defence small bodies of highly mobile and strongly armed troops who are to be called "Ironsides." There will be many hundreds of these formed from the Regular Army. Sir Edmund Ironside has sent to each "Ironside" a copy of the following saying by Oliver Cromwell:—

"Your danger is as you have seen; and truly I am sorry it is so great. But I wish it to cause no despondency, as truly I think it will not; for we are British . . . it's no longer disputing, but out instantly all you can."

NATIONAL SERVICE.—Men of the 1911 Class (28-year-old group) registered for service on 15th June. The number registering was 292,025 (England, 248,460; Scotland, 29,036; Wales, 14,529).

Men of the 1910 Class (29-year-old group) with those who had reached the age of 20 since 25th May last, registered for service on 22nd June. The number registering was 332,995 (England, 283,268; Scotland, 32,692; Wales, 17,035).

LOCAL DEFENCE VOLUNTEERS.—Mr. Eden, Secretary for War, announced on 14th May, the formation of a new force for home defence to be known as the "Local Defence Volunteers." Their purpose, he said, would be to guard against possible landings by German parachute troops in this country. Men of British nationality between the ages of 17 and 65, not engaged in military service were eligible to join for the duration of the war. Volunteers would not be paid but would receive uniform and would be armed. They would not require to live away from their own homes. By 25th May, the number of men enrolled was about 400,000, and by the end of June, exceeded 1,000,000. The appointment of Lieut.-General H. R. Pownall as Inspector-General of the Local Defence Volunteers was announced on 16th June. General Pownall acted as Chief of the General Staff under Lord Gort in the B.E.F.

VOLUNTEERS FOR THE ARMY.—To remove any misapprehension that voluntary enlistments can only be made on normal Regular Army engagements, the War Office has announced the following branches of the Service open for the "duration."

Youths between 18 and 19½ are urgently required for young soldiers' companies

of Home Defence infantry battalions, where they can obtain valuable experience that will prove beneficial when they are taken into the Army.

Men between 35 and 50 are wanted for Home Defence Battalions and the Auxiliary Military Pioneer Corps. This should appeal to the men who served in the last War.

Tradesmen between 20 and 45 are wanted for the R.E.s, Royal Signals, R.A.S.C., R.A.M.C., R.A.O.C., R.A.P.C. In some special units and certain trades maximum age limit is raised to 55 years.

For non-tradesmen between 29 and 35 there are vacancies in the R.A.C., R.A., Infantry, R.A.S.C., R.A.O.C., and the C.M.P. In the case of the R.A.S.C., R.A.O.C., C.M.P., certain enlistments are permitted up to 55 years. The lower age limit of 29 for non-tradesmen is that now in force. It will move upwards from the date on which each new age group is required to register under the National Service (Armed Forces) Act.

Volunteers between 20 and 35 can also be accepted for the Household Cavalry and Foot Guards. Youths of 19 and 20 can enlist on a normal Regular Army engagement (seven years Colours and five years Reserve) in all Corps, except the R.A.P.C., R.A.V.C., C.M.P., A.M.P. Corps, and non-combatant Corps.

All age limits and particulars given above are liable to alteration from time to time. Details of trades open and further information can be obtained at any Army Recruiting centre, the address of which can be had at any police station or employment exchange.

EQUIPMENT AND SUPPLY

EQUIPMENT FOR THE ARMY.—Lord Catto started duty on 18th April as Director-General of Equipment and Stores, Ministry of Supply, in succession to Lord Woolton, now Minister of Food. After a look round his department, he said to a Press representative :—

"I have taken on the job of being managing director of a highly efficient organization which is equal to the largest departmental store ever envisaged. For its efficiency I am indebted to my distinguished predecessor. On the clothing side alone we deal with greatcoats at the rate of 80,000 a week, battle-dress at the rate of 150,000 a week, 250,000 boots a week, and 150,000 shirts a week.

"On the general stores side I have to buy vast quantities of plates, basins, cutlery, and furniture sufficient to furnish hundreds of thousands of civilian homes, entrenching tools, water-bottles, mess-tins, brushes of all kinds, including millions of tooth brushes, tents and tent pegs, harness and saddlery, and so on. Altogether, I understand, I shall be responsible for the purchase of about 20,000 different articles. My department stands in relation to the soldier as a shop to which he can look for anything from a clasp knife to a cooking stove, and it has not failed him yet. I personally shall do my best, with the assistance of the colleagues I have met here, to see that it does not fail him in the future."

TRAINING SOLDIERS AS COOKS.—In view of allegations that have been made regarding waste of food in the Army, the following notes on some of the measures that have been taken to improve the training of soldiers as cooks may be of interest.

The soldier students at the Army School of Cookery for the London Area, which occupies the L.C.C. Technical Institute in Vincent Square, begin their six weeks' course of instruction in the well-appointed larders and kitchens of the institute. There they first absorb the principles and practice of large-scale catering and cooking under more or less ideal conditions; and thence they pass to the

simplest—and for most campaigning essential—apparatus, of a kind which can be improvised from the rudest materials.

CONCRETE CAMPS FOR MILITIA.—A million concrete blocks, the largest single order placed by the Government for building materials since the outbreak of war, have been ordered from a local firm for the construction of a new £350,000 militia camp in the Midlands. Concrete will be used for all door heads and sills in the camp, which will comprise 198 buildings to house about 1800 men and 1200 A.T.S. personnel.

The adoption of this method of construction will greatly minimize the fire risk and will also ensure a substantial saving of timber. Another advantage is speed in building. The same system has been approved by the district military authority for camp schemes throughout the counties in the centre of England.

DENIM OVERALLS.—The Ministry of Supply states that misapprehension has arisen regarding the overalls which are being made for Army service. Denim, a cotton fabric considerably lighter than the woollen fabric from which the battle-dress of the Army is made, is, and has been for some time, in use for making overalls to be worn outside the uniform for rough work; but no alternative to the battle-dress is proposed.

WELFARE

VISITS TO WOUNDED SOLDIERS.—The War Office has announced that the use of railway concession vouchers may be extended to include mothers, fathers, sisters, and brothers wishing to visit unmarried members of the Army lying ill or wounded in hospital in Great Britain, in cases where fare is paid by the relatives at the time of booking.

The concession, which will apply to the relatives of all ranks, including members of the A.T.S. and V.A.D., will be available for not more than two relatives on the occasion of each visit. Tickets at reduced rates will be issued upon the surrender at the booking office of Army Forms 01798, in the case of relatives of officers, and Army Forms B. 295B for relatives of other ranks. The vouchers will be available for journeys in Great Britain only.

COMFORTS FOR THE B.E.F.—The Army Comforts Depot, Reading, which is meeting demands for necessities and comforts for the men of the B.E.F. who have returned to this country, is being depleted of its stocks, and it will be grateful if the public will send them any of the following articles, which are urgently needed :—

Cigarettes, slabs of chocolate, tins of sweets, foot ointment and powders, safety razors and blades, shaving soap and cream, tooth paste, and handkerchiefs.

Gifts should be addressed to the Officer in Charge, Army Comforts Depot, Reading, who will acknowledge them forthwith.

DOMINIONS

AUSTRALIA AND NEW ZEALAND

Australia's war effort is developing smoothly and the second contingent of the Second Australian Imperial Force has disembarked in Egypt, whence it proceeded to specified areas in Palestine. The Commander is Major-General I. G. Mackay.

The first contingents of Australian and New Zealand Forces destined for service in the United Kingdom have also arrived safely at a British port. The Australians were commanded by Major-General H. G. Wynter and the New Zealand contingent by Brigadier J. Hargest.

The War Office made known the arrival of the Anzac troops in the following announcement :—

" Large contingents of the Australian Imperial Force and of the New Zealand Expeditionary Force who left these Dominions in May have disembarked at a port in Great Britain and are proceeding to their concentration areas.

" The troops are reported all well and in high spirits."

The King's message, addressed to the officers commanding the contingents, said :—

" A few months ago I sent some words of welcome to the first contingents of the Second Australian Imperial Force and the New Zealand Expeditionary Force when they disembarked in the Middle East.

" It has fallen to your lot to come to the United Kingdom itself, and as you take your place beside us you find us in the forefront of the battle. To all I give a warm welcome, knowing the stern purpose that brings you from your distant homes.

" I send you my best wishes and I look forward to visiting you soon."

Mr. Menzies, the Prime Minister of Australia, in a national broadcast on 16th June, announced that the Government had not set limits to recruiting, and he did not doubt that at any time during the war there would be 30,000 to 40,000 in training for the A.I.F. The greater the danger the greater was the rate of enlistment. Home defence forces comprising permanent troops, militia, and garrison battalions of the First A.I.F. numbered 95,000. The Government had decided that the home forces must be maintained at a strength of 250,000 to deter or repel an invader.

The New Zealand contingent which has arrived in England has been visited in camp by Mr. W. J. Jordan, High Commissioner for New Zealand. Mr. Jordan welcomed the troops to Great Britain and read to them a telegram which he had received from Mr. Fraser, Prime Minister of New Zealand. It was as follows :—

" Please convey to Brigadier Hargest and all ranks our warm congratulations on their safe arrival in the United Kingdom. We look to them with confidence to maintain the good name and high reputation of the New Zealanders in the Old Country, and extend to them every good wish."

CANADA

The Director of Public Information announced on 21st June, at Ottawa, the safe arrival in Great Britain of the fourth contingent of Canadian troops. The forces included members of the Royal Canadian Air Force. Mr. Mackenzie King, the Canadian Prime Minister, informed the House of Commons a few days earlier that a contingent of the Canadian Expeditionary Force had landed in Iceland. Canada, he declared, was extending her military defensive powers over French and British possessions in the Western Hemisphere. These measures are among those which illustrate the growth and development of Canada in recent years: firstly, from a Colony; secondly, to a Dominion; and now towards the status of a Great Power with overseas responsibilities.

NEWFOUNDLAND

Several contingents of Newfoundland troops have arrived lately in the United Kingdom. The last party to land included a number of artillerymen, who are to join the earlier contingents now under training in this country. The Master Gunner, Field-Marshal Lord Milne, inspected the first contingent of Newfoundland troops on 1st May, at the Royal Artillery Barracks, Woolwich. The intention, it is understood, is to form a Newfoundland Regiment of the Royal Artillery.

Lord Milne, addressing the parade, said that on behalf of the Royal Regiment of Artillery, of which they were now members, and of which The King was Colonel-in-Chief, he offered them a hearty welcome. In the last War there was a distinguished regiment of Newfoundlanders, and once again volunteers had come from that ancient Dominion to serve with the Allies. The Royal Regiment of Artillery welcomed them and was proud of them.

Mr. D. J. Davies, Trade Commissioner for Newfoundland, who accompanied Lord Milne on his inspection, said that in the last War there were in all about 10,000 Newfoundlanders in the Services; in this war about 7000 had joined in the first eight months.

INDIA

INDIAN ARMY EXPANSION SCHEME.—Broadcasting from Simla on 31st May, General Sir Robert Cassels, the Commander-in-Chief in India, outlined the details of an Indian Army expansion scheme, which aims at recruiting 100,000 men or more for the Indian Army, augmenting the Territorial Army by new units, and accelerating the provision of officers for these new forces. The number of recruits required is necessary for the maintenance of a force of 75,000 men, who will be attached to the new formations, which will include mechanized and motorized units, infantry artillery, and technical troops.

Sir Robert Cassels said that there was no anxiety with regard to man-power resources, but reminded his listeners that under modern war conditions man-power alone did not suffice. Ammunition, equipment, and supplies were essential, and since the outbreak of the war the country had concentrated on the provision of these essentials to the maximum extent. In the production of war supplies the country had already outstripped the achievement of the Indian munitions board in the final year of the last War. The output of shells had been multiplied twelve times, and the factories were producing seven times the quantity of lethal stores produced when the war began.

The proposals for increasing the Indian Army by 100,000 men, which will cost the country 20 crores (about £15,000,000) annually, mark only the first stage of military expansion which, in the last War, resulted in the creation of an army of 1,000,000. The expansion will be conditioned only by requirements and by India's capacity to give the new army modern essential equipment. In effecting the expansion all units of the Indian Army, including the corps departments, will be thrown open to Indian commissioned officers. Thus the principle of having certain purely Indianized units will now be abandoned, and the existing Indianized units will be placed on the same status as the non-Indianized units.

RHODESIA

The first contingent of the Rhodesian Territorial Force disembarked safely towards the end of April at an Egyptian port and proceeded to their destinations in Palestine, where they were welcomed by Lieut.-General G. J. Giffard, then G.O.C. Palestine. The force includes troops of all arms.

A Compulsory Military Service Bill has been passed in the Legislative Council of Northern Rhodesia. It is framed broadly on the lines of the analogous Kenya Ordinance, but with certain provisions to fit local circumstances. It provides for part-time as well as full-time service, and the Governor is enabled to call up a part-time man for full-time service. The Governor can further require persons liable for military service to undergo military training.

Funds for the maintenance and supply of the Rhodesian Forces have been

assured by the generous contribution of the Southern Rhodesian Government of the sum of £1,500,000 a year to the cost of the war.

EIRE

The Army of Eire has been brought up to war strength and placed on a war footing. The Army Reserve and the Volunteers have been called up and a recruiting campaign has met with welcome success. There has been an excellent response to the call for men for the Local Security Force and the numbers of the Regular Army and Volunteer Reserves have been substantially increased since the start of the recruiting drive.

A local security plan, designed to prevent surprise attacks from the air and to counter treasonable activity has been put into operation. The Volunteers are collaborating with the Civic Guards. Black-out arrangements are ready for immediate operation.

FOREIGN

GERMANY

GERMANS IN BRITISH UNIFORMS.—The German broadcast in Greek on 6th May, 1940, contained the statement that a German lieutenant and ten men disguised themselves in British uniforms and took a British detachment by surprise near Lillehammer in Norway.

This is a clear case of the improper use of military insignia and uniform of the enemy which is forbidden by Article 23 (f) of the Hague Rules. The Germans hereby admit having made use of a ruse which their own General Staff condemn in their official work on the usages of war *Kriegsbrauch im Landkriege*.

NOISE DEVICES.—The Germans have attempted to add to the confusion caused by dive-bombing attacks by a device which is fastened on to power-driving aircraft. To each dive-bomber is fixed a siren which emits a deafening noise more powerful than half a dozen air-raid warning apparatus. Devices are also attached to the bombs so that when they fall they make a high whining sound, which gives the impression that they are directly overhead.

These "terror" tactics were used in the Spanish Civil War, particularly against the Basques, and are effective chiefly against panic-stricken and underfed refugees. The details of the devices are well known, and can be used against the enemy if it is considered that they are of military value.

GERMAN SOLDIERS PHRASE BOOK.—German Soldiers Phrase Books have been issued in preparation for the invasion of Britain. These are on the same lines as those produced in the Czech, Polish and Russian languages. Throughout there is a warning that if you fail to tell their soldiers the truth, you will be shot. Some of the questions are concerned with money and end mostly with the remark, "I confiscate all this money." Others seem to anticipate that the German soldier's health may be affected by the hypothetical trip to this country, and say "I have the stomach ache. Give me some pills."

ITALY

The military resources of Italy are very considerable, but on the human side uneven in quality. Mussolini disposes of from 70 to 80 divisions, perhaps 1,500,000 men, including 200,000 European troops in Libya and 50,000 to 70,000 in Abyssinia.

According to the latest information available, the Italian Army includes two

armoured divisions as well as a number of independent tank regiments. It is, as would be expected, strong in mountain troops; there are five divisions of Alpini which are well trained and equipped, adapted to warfare on the Franco-Italian frontier and, generally speaking, probably the best troops Italy possesses. Some of her infantry divisions might be ranked as fair second-rate troops; that is to say, they could probably be relied upon to attack, even with ardour, so long as armament and numerical strength were markedly in their favour. The lower-grade formations still appear to have small military value, in spite of Mussolini's efforts to improve their spirit.

On the other hand, the Italian Army has certain good points. Its equipment is in general modern, and it was given a valuable trial in Spain. The Italian soldier is hardy and frugal, and can campaign in heat which would try any other European troops severely. The engineers are clever and quick in their work. The mechanical transport is of good quality.

Italy has been preparing for a European war ever since the liquidation of her Abyssinian venture, and has laid up large stocks of essentials such as oil, which she has been buying in the New World. Germany can afford to supply her with coal. She is incapable, however, of carrying on a long war under modern conditions except as an ally of the Power, or Powers, with command of the sea.

She has entered this war as Germany's satellite and will do as Germany bids her. The various possibilities open to her, such as attacks on Corsica, Malta, Cyprus, Tunisia, and Egypt, will be developed as best suits her master in Berlin.

(The Times.)

UNITED STATES

THOMPSON SUB-MACHINE GUN.—As photographs have appeared in the Press showing British troops in training with Thompson sub-machine guns, some details of this weapon may be of interest. The Thompson sub-machine gun is a weapon that permits one man to deliver an accurate, fully controlled, long sustained, automatic fire of great stopping power within the limits of its range. The manufacturers claim that it is free from stoppage due to overheating and that it offers extreme flexibility in fire control and direction.

Some details of the specification include: Ammunition, .45 colt automatic pistol cartridges; weight, 9 lbs. 13 ozs.; length, 33 in.; length of barrel with compensator, 12½ in.; without compensator, 10½ in.; equipped with Lyman sights and wind gauge; 20 and 50-cartridge capacity magazines. The compensator attached to the muzzle of the gun increases rapidity and accuracy of semi-automatic fire, lessens the tendency of the muzzle to rise in full automatic firing and reduces recoil to practically nothing.

(Details from Army Ordnance, U.S.A., May-June, 1940.)

ARMoured CORPS.—The War Department has begun the organization of a mechanized force of "great striking power," and is setting up, on an experimental basis, an armoured corps of two divisions. A special training school for personnel has been organized. The Corps Commander will be Brigadier-General Adna Chaffee, who now commands the 7th Cavalry Brigade, the only existing mechanized formation.

The strength of the armoured corps will exceed 18,000 officers and men. The equipment will consist of 1400 light and medium tanks—to be supplemented later with heavy tanks—600 guns and more than 13,000 automatic and semi-automatic rifles. The formation is expected to be ready by the autumn.

AIR NOTES

ROYAL AIR FORCE

H.M. THE KING

The King visited Headquarters of the Bomber Command on 18th May and studied maps and reports dealing with the operations of the previous few days. Afterwards he addressed the following message to the R.A.F. :—

" During my visit to the Headquarters of the Bomber Command to-day, I was able to hear more about the epic deeds of our bomber forces in recent weeks. Coupled with the arduous and unceasing duties of the Coastal Command and with the heroic exploits of our fighter squadrons in this country and in France, they make an immortal story—a story that fills the whole Empire, whose sons are now fighting in all three branches, with gratitude and admiration.

" I congratulate the Royal Air Force with all my heart, and wish them good luck and continued success. The matchless spirit that has shown so clear an ascendancy over the enemy makes the final victory of the Allies doubly sure.—
GEORGE R.I."

On 25th and 26th May, the King made a tour of R.A.F. units in England, visiting many stations and talking to officers and men who had been actively engaged against the enemy in the previous few days. In a hangar at a Bomber Command station in East Anglia, decorations were conferred upon officers and men.

The King visited a number of fighter stations on 27th June, and decorated officers and men. At one station, pilots who had only a few hours before taken part in an air battle gave the King first-hand accounts of the fighting. His Majesty's interest was such that he motored across the aerodrome with a young Flight Lieutenant to inspect the latter's machine, which although holed by enemy bullets and badly damaged had been flown safely home. Two of the officers who received decorations—Squadron Leader J. R. Kayll and Flight Lieutenant R. H. A. Lee, were the first two officers in this war to receive two decorations from the King at the same time.

THE DUKE OF KENT

It was officially announced from Buckingham Palace on 27th April that H.R.H. the Duke of Kent had terminated his appointment with the Intelligence Division of the Admiralty and was taking up an appointment as Staff Officer in the Training Command of the Royal Air Force. In order that the Duke of Kent may be able to serve in this capacity, the King has been pleased to permit His Royal Highness to relinquish temporarily the rank of Air Vice-Marshal and to assume that of Group Captain in the R.A.F. He will be charged with special duties connected with the welfare of personnel.

SECRETARY OF STATE

Following the resignation of Mr. Chamberlain as Prime Minister and his succession by Mr. Churchill, it was announced on 11th May that, among other changes, the King had approved the appointment as Secretary of State for Air of Sir Archibald Sinclair, in succession to Sir Samuel Hoare.

Captain H. H. Balfour, M.C., M.P., was subsequently reappointed as Parliamentary Under-Secretary of State for Air.

APPOINTMENTS

MIDDLE EAST.—On 4th May, the Air Ministry announced the appointment of Air Chief Marshal Sir Arthur M. Longmore, K.C.B., D.S.O., to succeed Air Chief Marshal Sir William G. S. Mitchell, K.C.B., C.B.E., D.S.O., M.C., A.F.C., as Air Officer Commanding-in-Chief, Royal Air Force, Middle East, with effect from 20th May, 1940.

INSPECTOR-GENERAL.—It was announced in the *London Gazette* on 4th June that Air Marshal Sir William G. S. Mitchell had been appointed an Inspector-General of the Royal Air Force, with effect from 24th May. He relinquished the acting rank of Air Chief Marshal from 13th May. The promotion was also announced of Air Marshal Sir Wilfrid R. Freeman to the temporary rank of Air Chief Marshal from 27th May.

ASSISTANT C.A.S.—Group Captain Robert H. M. S. Saundby, M.C., D.F.C., A.F.C., has been appointed Assistant Chief of Air Staff (Operational Requirements and Tactics), and has been promoted to the acting rank of Air Vice-Marshal.

AIR MEMBER FOR TRAINING.—Air Vice-Marshal A. G. R. Garrod, O.B.E., M.C., D.F.C., has been appointed a Member of the Air Council and will be known as the Air Member for Training. He will be charged with the responsibility not only for training policy but also with ensuring that the training organization is adequate to meet the requirements of the Force.

TRAINING APPOINTMENTS.—Air Commodore A. J. Capel, D.S.O., D.F.C., has been appointed to be Director of Operational Training; Air Commodore A. H. Orlebar, A.F.C., to be Director of Flying Training; and Group Captain M. Thomas, D.F.C., A.F.C., to be Director of Technical Training. These three Directors, whose appointments were announced on 30th July, will be responsible under Air Vice-Marshal Garrod for training air operational units, for training at flying, navigation and armament schools, and at technical training establishments respectively.

GROUND DEFENCES.—The Secretary of State for Air has appointed Air Commodore A. P. M. Sanders to be Director of Ground Defence. His main function will be to perfect the ground defences of aerodromes and other R.A.F. establishments against any form of attack.

PERSONAL AIR SECRETARY.—It was announced on 27th July that Sir Archibald Sinclair, Secretary of State for Air, has appointed Wing Commander Sir Louis Greig, K.B.E., C.V.O., to be his Personal Air Secretary.

PROMOTIONS

Air Vice-Marshal W. L. Welsh, C.B., D.S.C., A.F.C., is granted the acting rank of Air Marshal, to date 27th May, 1940.

The following Air Commodores are granted the acting rank of Air Vice-Marshal

from the dates stated :—R. P. Willock, 3rd June, 1940 ; Sir C. J. Q. Brand, K.B.E., D.S.O., M.C., D.F.C., 15th June, 1940.

Group Captain A. W. F. Glenny, M.C., D.F.C., is granted the acting rank of Air Commodore, from 24th December, 1938, to date 8th April, 1940.

HONOURS AND AWARDS

Awards to the first members of the R.A.F. of the Victoria Cross were announced on 10th June. The decoration was conferred upon Flying Officer Donald Edward Garland and Sergeant Thomas Gray, pilot and observer of the leading aircraft of a formation of five which attacked a bridge which had not been destroyed over the Albert Canal and was allowing the enemy to advance into Belgium. Orders were issued that this bridge was to be destroyed at all costs. Only one of the five aircraft concerned returned from this mission. Flying Officer Garland and Sergeant Gray were among those who did not return.

Further awards to officers and men of the R.A.F. were announced on the following dates :—17th April, 20th April, 27th April, 1st May, 8th May, 9th May, 18th May, 24th May, 31st May, 1st June, 5th June, 6th June, 8th June (permission for foreign decorations), 10th June, 12th June, 15th June, 17th June, 20th June, 21st June, 25th June, 26th June, 28th June, 6th July, 10th July, 19th July, 20th July, 24th July, 25th July, 27th July, 29th July and 31st July.

MIDDLE EAST.—The first awards for gallantry made to personnel of the R.A.F. in the Middle East since the outbreak of war with Italy were announced in Cairo on 15th July.

BIRTHDAY HONOURS.—The following were among the awards announced on 10th July in the postponed Birthday Honours List :—

K.C.B.—Air Marshal Arthur S. Barratt, C.B., C.M.G., M.C., Acting Air Marshal Charles F. A. Portal, C.B., D.S.O., M.C., Acting Air Marshal Richard E. C. Peirse, C.B., D.S.O., A.F.C.

K.B.E.—Air Vice-Marshal Patrick H. L. Playfair, C.B., C.V.O., M.C.

PERSONNEL

PROMOTIONS.—A long list of promotions with effect from 1st June was published by the Air Ministry on 8th June. In the General Duties Branch, 47 Wing Commanders were promoted to be Group Captains (temporary), 102 Squadron Leaders to be Wing Commanders (temporary), and 69 Flight Lieutenants to be Squadron Leaders (temporary).

Similar temporary promotions in the Equipment Branch included five Wing Commanders to Group Captain, 11 Squadron Leaders to Wing Commander, and 49 Flight Lieutenants to Squadron Leader. In the Accountant Branch, there were three Wing Commanders to Group Captain, 19 Squadron Leaders to Wing Commander, and 47 Flight Lieutenants to Squadron Leader. A number of temporary promotions were also made in the various Reserves.

SPECIAL DUTIES UNIFORM.—Approval has been given for the introduction of a uniform, to be known as the "Special Duties Uniform," for wear by certain civilian officials employed with the R.A.F. when, in the opinion of the Air Council, the circumstances are such as to render the wearing of uniform necessary for the efficient

performance of duty in war conditions. The jacket will be similar to that for R.A.F. personnel, but without any R.A.F. badges or other insignia. It will have plain brown leather buttons and a brown leather-covered buckle. The cap will be similar to the R.A.F. Service cap, but in place of the R.A.F. badge will have a badge comprising the letters "S.D." surrounded by an endless cable embroidered in a disk of black cloth.

OBSERVER CORPS UNIFORM.—Approval has been given for the introduction of a special uniform for members of the Observer Corps. The officer's cap will have the Observer Corps badge in gilt metal. The jacket will not have any R.A.F. badges or other insignia, but will have Observer Corps gilt buttons. Officer grade will be denoted by a black sleeve braid $1\frac{1}{2}$ in. wide. Members other than officers will wear dark blue berets bearing the Observer Corps badge, and a dark blue combination suit, under which civilian clothes may be worn. The wearing of uniform by officers is optional.

TRAINING OF AIR CREWS.—It was announced at the beginning of July that volunteers for the R.A.F. who are accepted for the Air Crew Pool may enter immediately if they wish, and while waiting for their turn to begin training at an Initial Training Wing they will be employed on the ground, including air station defence duties. Candidates who have special qualifications may also be entered without going into the Pool, and allowed to commence their flying training immediately.

EDUCATIONAL FACILITIES.—It was announced in May that some of the educational facilities for R.A.F. personnel at operational stations which were suspended on the outbreak of war were being resumed. Educational officers were to be reappointed to the Bomber, Fighter, Coastal and Balloon Commands. A new feature of their work is to cater for any special educational needs of members of the W.A.A.F.

DEFENCE OF AIR STATIONS.—Volunteers were called for in June for a new branch of the R.A.F. whose duties will be to defend on the ground the aerodromes, air fields and stations used by the Force in all parts of the country. The age limits are from 18 to 38, but ex-Service men will be accepted up to 50, and in exceptional cases up to 55. Pay is at the rate of 2s. a day, with all found, and applications should be made in the first instance to a Combined Recruiting Centre.

MINELAYING FROM THE AIR

Since the opening of the Norwegian campaign, minelaying in the Baltic has been carried out by aircraft of the Bomber Command; the results, both in shipping losses and in the general disorganization to enemy seaborne traffic, have been outstanding.

In two of the many minefields laid, the enemy are known to have lost at least twelve ships sunk, while many others are known to have been damaged. In one field alone, five ships are said to have been sunk within a period of 36 hours.

It is reliably reported that at least one German warship has also been seriously damaged by this means. The danger areas run from the farthest eastern German Baltic ports to the North of Norway. There is no safe passage for German shipping, and no fiord, estuary or harbour which the enemy can use without risk in his own or occupied territory.

Minefields which the enemy discovered by the loss of ships have been heavily

protected against further visits of minelaying aircraft by anti-aircraft guard ships, by searchlights, balloons, units of the Fleet and fast motor craft. But these waters lend themselves admirably to mining of this description, and as fast as he finds a way through any field it is built up again. One R.A.F. unit alone exceeded a quarter of a million miles flying on this task at the end of June.

Apart from the Baltic and the Belts, nearer home aircraft of the Bomber Command, Fleet Air Arm and Coastal Command have undertaken similar operations against enemy North Sea ports and estuaries.

PROTECTION OF AIRCRAFT FACTORIES

Lord Beaverbrook, Minister of Aircraft Production, announced on 28th May that he had appointed Admiral Sir Edward Evans, K.C.B., D.S.O., LL.D., to take charge of the local protection and security of the organization of all factories engaged on aeronautical work and the aerodromes attached to them. Admiral Evans's headquarters is at the Ministry of Aircraft Production, Millbank, S.W.1. He has appointed Commander Stephen King-Hall, R.N., M.P., to be his Personal Assistant. Commander King-Hall was torpedo officer of H.M.S. "Repulse" when Admiral Evans was in command of that ship.

AIR SUPPLY BOARD

Captain M. S. Slattery, R.N., has been appointed Admiralty Representative on the Air Supply Board set up by Lord Beaverbrook. This will enable Fleet Air Arm needs to obtain attention at the Ministry of Aircraft Production, and further the co-operation between the Royal Navy and Royal Air Force. Captain Slattery qualified as an air pilot in 1924, and has commanded squadrons of the Fleet Air Arm.

WOMEN'S AUXILIARY AIR FORCE

The Duchess of Gloucester, Air Commandant, on 29th May, visited the Recruiting Depot of the Women's Auxiliary Air Force. On 5th June, Her Royal Highness inspected a detachment of the Force at a R.A.F. station near London, and a week later another detachment at a station in the Midlands.

MISCELLANEOUS

YELLOW DINGHIES.—To facilitate the search for crews of R.A.F. aircraft who may be forced down into the sea as a result of engine failure or enemy action, the inflatable dinghies carried by all service aircraft operating over water have been painted bright yellow. Experience has shown this to be the most striking of all colours, noticeable at a far greater distance than white. The enemy has adopted the same colour for his inflatable rafts.

R.A.F. BENEVOLENT FUND.—Lord Horder, Physician-in-Ordinary to the King, has offered to act as Honorary Consulting Physician to Rooks Hill House, Sevenoaks, the home for orphan children of members of the R.A.F. Rooks Hill House was lately presented to the R.A.F. Benevolent Fund by Mr. Alexander Duckham, who presented Vanbrugh Castle, Blackheath, shortly after the last war.

KITE FLYING PROHIBITED.—The prohibition of kite and balloon flying was

announced by the Air Ministry on 5th July. An Order made under the Defence Regulations forbids any person, other than a servant of His Majesty, to fly balloons (whether fixed or free), or kites, over the United Kingdom except by permit granted by the Air Council or some authorized person.

AIR DEFENCE CADETS.—Squadron Leader C. F. Gordon has been released by the Air Ministry to take up the post of Secretary of the Air Defence Cadet Corps.

DOMINIONS

AUSTRALIA

RECRUITING.—On 4th May, Mr. J. V. Fairbairn, Minister for Air, announced that 10,000 men had already enlisted in the Royal Australian Air Force, within the framework of the Empire Air Training Scheme.

TRAINING AIRCRAFT.—On 6th June, Mr. Menzies, the Prime Minister, announced that since the supply of aircraft from Britain for Australia's training commitments under the Empire scheme was unlikely, the War Cabinet had approved the purchase locally of 300 Tiger Moths for elementary training and, subject to successful tests, 200 Wackett training aircraft for advanced training. These are being fitted with American Scarab engines.

PROMOTION.—Group Captain F. H. McNamara, V.C., C.B.E., Australian Air Force Liaison Officer with the R.A.F., has been promoted to Air Commodore. He was a schoolmaster in Victoria before taking up flying, during the last war, and won the V.C. when with No. 1 Squadron of the Australian Flying Corps in Egypt, during the air prelude to the first Battle of Gaza.

SUBMARINE DESTROYED.—On 17th July, the Air Ministry announced that a Sunderland flying-boat of the Royal Australian Air Force attached to the Coastal Command had destroyed a U-boat in the Atlantic. Survivors from the submarine were picked up by a naval sloop. The flying-boat was commanded by a 25-year-old pilot from Sydney, with a second pilot, aged 21, from New South Wales.

CANADA

The King has been pleased to approve of No. 110 (City of Toronto) Squadron, Royal Canadian Air Force, being allied to No. 603 (City of Edinburgh) Squadron, Auxiliary Air Force. This is the third alliance of a unit of a Dominion Air Force to one of the R.A.F., and the first in which a Canadian Squadron has been concerned.

EMPIRE SCHEME.—The first group of trainees for the Empire Air Training Scheme reported for duty on 29th April at the initial training school established on the site of the Eglinton Hunt Club, Toronto. A month later it was announced that the scheme would soon be using 4000 aeroplanes, 50 at each of 80 airfields, and that there would be 2700 commissioned officers, 6000 civilians, and 30,000 men for servicing and other duties. Earlier in the year the R.A.F. had sent to Canada 71 officers and 200 airmen to assist in the work. By the end of May, 25,000 young Canadians had applied at the Dominion's 20 recruiting stations, and 5000 had been called up for training. The courses for pilots last 26 weeks, for air observers 22 weeks, and for air gunners 20 weeks.

CONTINGENT FOR ENGLAND.—A further contingent of the Royal Canadian Air Force arrived in Great Britain at the end of May after an uneventful crossing of the Atlantic.

INSPECTOR-GENERAL.—It was announced in Ottawa on 30th May that Air Vice-Marshal G. M. Croil, Chief of the Air Staff, had been appointed Inspector-General of the Royal Canadian Air Force.

GIFT OF A BOMBER.—A new Bristol "Bolingbroke" twin-engined bomber, purchased for £25,000 by contributions from members and friends of the Imperial Order of Daughters of the Empire, was presented to the R.C.A.F. on 13th July by Mrs. W. B. Horkins, National President of the Order.

NEW ZEALAND

RECORD FLIGHT.—In May, one of the aircraft of the New Zealand Squadron of the R.A.F. Bomber Command carried out the longest reconnaissance flight of the war, more than 2000 miles, from North Scotland to Narvik and back up the Norwegian Coast in daylight. This Squadron has taken part in the bombing attacks on German aircraft concentrations at Stavanger and Aalborg aerodromes.

SOUTH AFRICA

TRAINING MISSION.—Air Chief Marshal Sir Robert Brooke-Popham, G.C.V.O., K.C.B., C.M.G., D.S.O., A.F.C., Head of the Mission to South Africa to discuss the provision of facilities there for the flying training of R.A.F. personnel from the United Kingdom in conjunction with the training of personnel from the South African Air Force, arrived at Capetown by air on 30th April. The other members of the Mission are Sir James Stirling Ross, K.B.E., C.B., formerly Deputy Under-Secretary of State, Air Ministry, Group Captain A. L. Paxton, D.F.C., Squadron Leader E. F. Porter, and Mr. A. L. M. Cary, of the Air Ministry (Secretary).

In a statement at Nairobi on 10th June, Sir Robert Brooke-Popham said that he was pleased with the results of the Mission, and he had found General Smuts, the Prime Minister, and Sir Pierre Van Ryneveld, Chief of the General Staff, anxious to help in every possible way. The framework for expansion of the Union's air training scheme now existed, and the rate of expansion would be influenced by Britain's ability to send material for the personnel. He paid a tribute to the Union's young airmen, who were of fine physique and bright, keen and intelligent—just the type one wanted to see in the Air Force. He was particularly impressed, he added, by the Afrikaners.

GIFTS FROM RHODESIA.—Gifts of £6,500 and £7,500 were received in July as contributions by the people of Southern Rhodesia towards the cost of training aircraft for the R.A.F. Mr. J. M. Smith and Mr. B. S. Leon, of Gatooma, made separate contributions amounting to £4,000 for the same purpose.

INDIA

RESERVE EXPANSION.—It was announced from Simla on 21st June that the Indian Government, in furtherance of their policy of expanding the country's defence, had decided to proceed with the training of 300 additional pilots and 2000

mechanics as a reserve for the Indian Air Force. Ninety of the pilots were already in training. Courses for mechanics were being organized at existing technical schools, to be followed by training at two specialist schools in Bombay and Calcutta.

HYDERABAD SQUADRONS.—A further gift of £50,000 was announced on 31st May by the Nizam of Hyderabad towards the maintenance of the two fighter squadrons of the R.A.F. which bear his name. Messages of appreciation were sent to the Nizam by the King Emperor and by Sir Archibald Sinclair on behalf of the Air Ministry.

GIFT OF FIGHTERS.—The Calcutta Committee of the East India Fund sent to the Air Ministry on 9th July a further cheque for £15,000, bringing the amount subscribed by the Fund towards the cost of fighter aircraft for the R.A.F. up to £55,000.

ZANZIBAR

The Sultan, Executive Council, and Finance Committee of the Legislative Council have unanimously decided to present H.M. Government from the Protectorate's invested surplus a contribution of £20,000 for the purchase of two fighter aircraft for the Colonial Air Squadron, to be named respectively "Zanzibar" and "Pemba." Lord Lloyd, Secretary of State for the Colonies, has gratefully accepted the gift on behalf of the Government.

SINGAPORE

GIFT OF A BOMBER.—The *Straits Times* of Singapore has raised a sum in dollars equivalent to £20,000 as a contribution to the war effort of the British Government, and has asked that the amount shall be devoted for the purchase of a bomber. The gift was warmly welcomed on behalf of the Government by Lord Beaverbrook, Minister of Aircraft Production.

TRINIDAD

AIRCRAFT GIFTS.—Two sums of £21,000 each have been sent to London by the Trinidad Merchants' Committee which has been sponsoring an appeal to the public for funds to buy aircraft. The Committee hopes to provide a complete squadron for the R.A.F., which it desires to have named after the Colony.

WINDWARD ISLANDS

GIFT OF A FIGHTER.—On 15th July it was announced that £2100 had been subscribed by the people of St. Lucia, Windward Islands, as a first instalment towards the cost of a fighter for the R.A.F.

FOREIGN

GERMANY

The following is a comparison in armament of British and German types of aircraft; it will be observed that in current British fighters the emphasis is on multiple rifle-calibre machine guns; also that Britain's bombers, too, have heavy

defensive armament. Variations of the standard armament, including the use of cannon, have been employed on some types, both British and German. "Cannon," incidentally, is a general term for large bore, shell-firing machine guns.

German Fighters.

British Fighters.

Heinkel 112	... 2 machine guns ; 2 cannons in wings.	Hawker Hurricane	... 8 machine guns.
Messerschmitt 109	4 machine guns ; 1 cannon.	Vickers Spitfire	... 8 machine guns.
		Boulton-Paul Defiant	multiple guns in turret.
Messerschmitt 110	4 forward guns ; 2 rear guns ; 2 cannons.	Bristol Blenheim	... "nest" of guns under fuselage ; 1 gun in rear turret.

German Bombers.

British Bombers.

Dornier 17	... 2 fixed guns ; 2 movable guns.	Handley-Page Hampden.	2 forward guns ; 4 rear guns.
Heinkel 111	... 3 movable guns.	Armstrong-Whitworth	1 forward gun ; 4 rear guns.
Junkers 88	... 3 gun positions.	Vickers Wellington	... 1 forward gun ; 4 rear guns.

Despite the formidable appearance of the Me.110 armament the smaller British Hurricane and Spitfire fighters have shown themselves a match for these machines, even in superior numbers. And British bombers, although their job is not to invite combat, have nevertheless been able, on several occasions, to give as good as they received in fights with the Messerschmitts.

ITALY

The *Regia Aeronautica* (Royal Italian Air Force) employs about thirty different types of aircraft, including some half a dozen seaplanes, and a flying boat, but many of these are obsolescent. As the war progresses it is likely that the Italians, in so far as they use Italian and not German aircraft, will concentrate on one or two of the most advanced types in each category.

Foremost amongst their fighters can be reckoned the Fiat G.50 and the Macchi C.200. Both are modern, single-seat monoplane types, with a single radial engine. They each carry two heavy machine guns, firing forward. Their wing span of about 35 feet is 2 feet less than that of Britain's smallest fighter, the 8-gun Spitfire ; whilst their speed—305 m.p.h. for the Fiat and 313 m.p.h. for the Macchi—is definitely low as modern fighters go. Against this they are reported to be very manoeuvrable and sturdily built. Another fighter, a biplane, reminiscent of Britain's obsolescent Gloster Gladiator, is the Fiat CR.42.

Italy's best-known bombers are of the tri-motor type. The Savoia-Marchetti 79 and 81 are examples, the SM.79, powered with engines of the Bristol Pegasus type, being the more successful.

This aircraft, which was used with considerable success in Spain, is roughly comparable in size and speed to the British two-motor Hampden, and is the counterpart of the German Heinkel He.111. It has a maximum speed of 270 m.p.h., and

is armed with three 12.7 mm. machine guns, one of which is fixed. The bomb load carried is 2755 lbs. The SM.81 is an older and slower type, though larger, and its maximum speed does not exceed 210 m.p.h. It is armed with three guns of 7.7 mm. More recent than these are the two-motor Savoia-Marchetti 85 and 86 and the Fiat BR.20. The SM.85 is a single-seat twin-engine dive-bomber which has only been in service since the spring of this year, and further details regarding the type are not available. The BR.20 has a speed of about 260 m.p.h., and besides carrying a useful load, mounts four guns. Most of Italy's bombers are more lightly armed.

Out of roughly 2100 first line aircraft the *Regia Aeronautica* musters some 340 seaplanes and flying-boats. Many of these are out of date; but this high proportion of sea-going craft might indicate that Italy intends to take advantage of her many island bases. The fastest seaplanes are the little Caproni Ca.312, and the big three-motor Cant Z.506B. None of them compare favourably in armament or performance with the British Sunderland and Lerwick flying-boats.

RUMANIA

According to a report from Bukarest, quoted by "Aeronautics," the Rumanian Air Force has taken delivery of sixty Italian aeroplanes, and thirty Italian flying instructors have been assigned to various units of the Rumanian Air Force.

REVIEWS OF BOOKS

GENERAL

Canada, Europe and Hitler. By Watson Kirkconnell. (Oxford University Press.) 8s. 6d.

At a time like the present a book with such a title and imprint deserves special attention. The author tells us that there are 2,500,000 "European-Canadians" whose origin was neither British nor French. He has himself travelled much in the Baltic and Balkan States, and has studied closely the foreign-language newspapers in the Dominion at home.

What shocks him is the ghastly seizure by Hitlerism of all Germanic youth and its horrible slogan: "*Christus krepriere, Hitler Jugend marschiere!*" ("Let Christ rot while the Hitler Youth go marching on!") His chapter on *Lebensraum* has trite passages from *Mein Kampf*, and how the Führer of the "lordliest" of all races feels he is "justified in preying on the rest for the well-being of his own noble whelps."

Much of this book was, of course, out of date before its publication: it deals at length with Hitler's many "thrusts," from Czechoslovakia to the 18-day *blitzkrieg* in Poland—not to mention the later tragedies which began with Holland and Belgium. Our author gets down to Canada's own "brass tacks" when he tells us how the largest national group at home (outside the British and French) are those of *German* origin: 473,544 of them by the last Census. Then there are the Italians, Poles, Russians and immigrants from all over Europe. This glimpse of an unlooked for "melting-pot" makes us sympathize with Mr. Mackenzie King and the Ottawa Parliament, for to-day we look to a Canada "in overalls" for generous material aid, and as the centre of the Empire Air-Training Scheme, which with the loss of the Low Countries and France is more important than ever.

Mr. Kirkconnell finds that all racial stocks are loyal, including Ukrainians, Poles, Czechs, Croats and Magyars: "Canada is more united than ever before in her history." But an intelligent foreign policy is a prime need in the face of strong yet subtle enemy propaganda and "the parish dust and tumult of some Provincial politicians."

Events at tornado speed have throughout marked the new *blitzkrieg* whose fiendish tactics Hitler himself has fully described as of his own inventing, and in this connection it is a pity the author does not seem to have read Dr. Hermann Rauschning's revelations. Lastly, he takes a grave view of the Dominion's birth-rate, "which is no longer adequate." And he fears that *la revanche du berceau* may lie in wait, since "the potential mothers of our race mistake comfort for civilization." The Bibliography is awe-inspiring as a polyglot one; but the index is satisfactory for so brief a book.

A Key to Victory. By Lieut.-Colonel Clive Garsia, D.S.O., M.C. (Eyre & Spottiswoode.) 10s. 6d.

Lieut.-Colonel Garsia's book is in essence a plea for long-range planning. He was persuaded to a study of the subject by his experiences in the campaign in Palestine where he served on the staff. He was convinced that failure at the first two battles of Gaza and the mediocre success won by greatly superior force at the third battle were due mainly to the fact that plans and the appreciations on which they were based had their roots in a faulty system. He describes these battles, indicates the mistakes that were made, and then proceeds to apply to the series of operations his own "automatic" system which he regards as a key to victory.

His system consists of "an analytical process called *strategical*, or *tactical*, *analyses* (according to the type of the situation being dealt with) and a *memorandum* in which the results of his *analyses* are set forth. This latter culminates with a statement of the plan recommended."

In his analyses he would apply remorseless logic to all relevant factors in turn. He would free appreciations from all subjective influences of the emotions, whether of dreams of conquest, of partiality for a particular arm or of personal whims. While at no point are the demands of sound and even of imaginative planning to be neglected, yet at every stage leadership is to be guided and instructed by a lucid exposition both of the facts themselves and their bearing, not on a particular plan, but upon the whole range of operations under survey.

For these purposes he would keep a small planning committee of about five members, including representatives of the Services, of industry, of science, of logic, in permanent commission and, to assist it, he would have a large number of sub-committees, each of which would study some factor likely to play a large part in the achievement of the aim. The committee would have no executive power; but it would advise the Government and would place at the service of the selected leader an objective survey of the situation.

Colonel Garsia makes a very strong case. There is but little doubt that, had his system been adopted three decades ago, much of the hand-to-mouth strategy from which the country has suffered in two great wars might have been avoided; but, as usual, the opportunity for such action was allowed to slip by until it was too late. Nevertheless, this is an important work and, as such, should be widely read. Readers should not allow themselves to be deterred from a thorough study of its pages, by the somewhat dry presentation of the theories involved.

NAVAL

Brassey's Naval Annual, 1940. Edited by Rear-Admiral H. G. Thursfield. (William Clowes.) 25s.

As a result of the war, "*Brassey*" has arranged its articles in the form of a chronicle of the naval events of 1939. In the first chapter, contributed by the Editor, the period up to the beginning of September, 1939, is passed under review, while in the third chapter he deals with the naval incidents of the war up to February last.

Captain Altham, who for many years has contributed the chapter on foreign navies, being otherwise occupied, this subject is covered by Mr. Francis McMurtrie, with illustrations of the new Italian battleship "*Littorio*"; the United States

cruiser "St. Louis," U.S. destroyer "Jouett," and U.S. submarine "Swordfish"; and the Yugoslav destroyer "Beograd."

Sir Archibald Hurd discusses "The Merchant Navy in War and Peace," and compares the experience which led to shipping control in 1914-18, with the immediate taking over of shipping in the present conflict. In his opinion "the promptitude with which the Admiralty introduced the convoy system at the opening of the war contributed perhaps more than anything else to the safety of shipping. Whereas in the war of 1914-18 convoys, except on short routes, were not organized until nearly three years after the outbreak of war, the Admiralty on the present occasion was able to announce within ten days that the system was in partial operation."

It is pointed out that although total tonnage of all ships of 100 tons gross and upwards registered in the British Empire amounts to over 21,000,000 tons, this includes a large quantity of small craft plying habitually within United Kingdom territorial waters, as well as vessels plying on the Canadian Lakes and in the coastal trades in other parts of the Empire. It is probable, therefore, that the shipping actually available for trade with overseas countries amounts to about 2500 vessels of 15,500,000 tons gross.

Another matter to which attention is drawn is that while elaborate precautions have been taken to ensure that shipowners and shipbuilders shall not be overpaid for their services, there is a danger that after the war a depression will recur in which there will be little employment of tonnage and few orders for the shipyards. "Unless both industries have been in a position to build up reserves during the War, they will not be able to finance their operations in the dark days which lie ahead. Having survived the ordeal of war, they may succumb to the ordeal of peace."

Dr. H. Rosinski elaborates various "German Theories of Sea Warfare." He considers that Germany's plan of campaign in this war has been to avoid, so far as possible, clashes with the British armed forces and to concentrate instead the full strength of her attack against shipping, and thus by an indirect method deprive this country of the control of communications. This doctrine is based on the arguments put forward by Captain von Waldeyer-Hartz in an article on "Naval Warfare of To-morrow" published in 1936. The new strategy thus advocated rapidly conquered and dominated practically the whole of German naval thought.

Commander H. Pursey, R.N., covers the subject of "The Submarine Campaign." He shows that when the war began Germany had 71 submarines in service or on the point of delivery, and 30 under construction. Only 39 of the 71 were considered capable of operating outside home waters. The total available was only half that of early 1917, when the unrestricted "sink at sight" campaign was opened, a campaign which for a period destroyed our merchant ships faster than we could replace them. The result of the 1939 U-boat campaign was that whereas during the Great War 169 ships of 516,394 tons were sunk in the one month of April, 1917, only 113 ships of 391,144 tons were sunk during the 17 weeks to the end of December last.

There is no doubt that "The German High Command had greatly over-estimated the capabilities of the U-boat, in which there had been no outstanding improvement in design, or development in weapons during the past twenty years. The Germans had also apparently failed to appreciate the tendency in scientific warfare for defence to overtake offence, and had greatly under-estimated the effect of the defensive measures such as convoy and the progress we had made in the detection of submarines. The invention of a successful detection apparatus was the most

important development in submarine warfare since the Great War. The use of aircraft for warning merchant shipping and for attacking U-boats also contributed greatly to the mastery of the submarine menace."

"Air Operations of the War at Sea" and "Aeroplanes Operating at Sea" are both contributed by Major Oliver Stewart. His conclusion is that the opening stages of the war "show a technical superiority in British aircraft over enemy ones, especially in the matter of the armament of bombing and reconnaissance machines."

The publishers are to be congratulated on maintaining this historic Annual midst all the difficulties of production in war-time, and the Editor on the result.

MILITARY

Allenby: A Study in Greatness. By General Sir Archibald Wavell, K.C.B., C.M.G., M.C. (Harrap.) 18s.

Military biography is extremely difficult to write in a truly satisfactory manner, since there exists an inevitable tendency to overload the human subject under a mass of technical, historical and descriptive detail. Then when this fault is avoided the work frequently degenerates into a mere string of anecdotes. In the case of Allenby an adequate biography, that by Raymond Savage, already exists, while so much has been written of the Palestine campaign—not the least being the work of General Wavell himself—as to make it unlikely there could be anything fresh to recount.

For the most part this volume succeeds in avoiding these stumbling blocks. General Wavell has managed to keep the personal interest in his hero alive, in spite of the historical and descriptive matter which could not be left out. Wherever he could do so, he has related the dry facts of Allenby's campaign from a personal angle that is highly refreshing. Some of the best of the author's expressions of opinion of this type are to be found in his account of Allenby's work in the South African War and in his narrative of the Retreat from Mons in 1914. On the other hand, in telling the story of the Palestine Campaign, there seem to be many echoes from the author's own work on those operations. Nevertheless, the book remains well worth reading from cover to cover.

It is, of course, the work of a loyal staff officer dedicated to the memory of a chief whom he adored. If this fact be remembered, much in this biography acquires a deep significance. The man stands revealed as an exceptional type of soldier. Much of the "bad patch" that he experienced in France in 1915-16 is explained by sidelights on unsatisfactory relations that existed between Allenby, on the one hand, and Haig, supported by Gough, on the other. The curious nonchalance exhibited by Allenby as to what others might think of him, and, above all, his occasional lack of self-control ending in fierce outbursts of temper, explain much. Transferred to Palestine, where he was his own master and could reorganize his army in a manner best calculated to suit the campaign in hand, he found a sphere of action that fitted him like a glove. The cavalry soldier, the man of action, could give free play to the magnificent soldierly qualities that lay in him. His mind, fortified by study, found a task it was admirably fitted to perform. For the rest let us quote the author: "Whether his successes were due to fortune, to the work of his staff, to the fighting qualities of his troops, to the weakness of his enemy, or to his own skill, let anyone decide for himself." The reader must take that advice.

The sub-title of the book might have been more apposite had it read : " A study in Generalship." The illustrations are well drawn. Would it were possible to say the same of the maps. But this criticism cannot detract from an excellent and scholarly production, while a last word of praise might be accorded to the remarkably chosen quotations that amplify the headings of the chapters.

The Art of Modern Warfare. By Hermann Foertsch (Colonel of the German General Staff). (New York, Veritas Press.) \$2.75.

This book consists mainly of a summing up of the strategical and tactical tenets of the German Army and, by comparison, of other Armies as they were evolved as a result of the first World War and other wars up to the outbreak of the Second World War. The author, however, has been at pains to generalize on very broad lines and to impart but little detailed information.

In view of the course of recent battles in the West, the paragraphs on tanks and anti-tank defence seem to assume paramount importance. After a survey of the performances of tanks in recent wars, the author declares that the possibilities of future developments are in the first place along the line of mobility. Speed, he thinks, hardly needs to be increased. What is more important is improved ability to manoeuvre in open country and to overcome obstacles. In time, he considers these technical matters will find their solution.

The central question, to which an answer is imperative, is whether the tank is an entirely new type of weapon which cannot be closely associated with the older arms without disturbance to their essential nature, or will it remain the auxiliary it was when it originated in the last war? The solution of this problem, in his view, depends in part on the possibilities of technical development and also on the situation in respect of raw materials and the capacity of the manufacturing plant. The responsibility involved in giving the answer to this question is, he emphasizes, tremendous; the future alone can decide. However, to judge from the teachings of history, the bolder decision will probably carry off the palm.

A History of the Uniforms of the British Army. Vol. I. To the year 1714.
By Cecil C. P. Lawson. (Peter Davies.) 12s. 6d.

Year by year books on all kinds of military subjects pour from the press, but so far no one has attempted to give a comprehensive view of the outward appearance of the British soldier throughout the centuries. Mr. C. C. P. Lawson's book comes now to fill up the gap, and so thoroughly has he accomplished his task that we can prophesy that his book when completed will remain for a long time the standard work on the historical uniforms of the British Army.

To be able to visualize the dress and equipment of any soldier a pictorial illustration is needed to supplement the written description, and in both these departments Mr. Lawson has succeeded eminently well. On no subject, perhaps, is it easier to make mistakes than in that of military dress, but in this book one has to look very closely to find anything to question. The author has already a well-established reputation for his battle pieces and studies of military subjects, and this present work of his will enhance that reputation. Vol. I takes us as far as the year 1714, and having read the proofs for the next volume, which goes up to 1760, we can promise that it will be equally interesting and valuable. Mr. Lawson

intends to bring in sections concerning the early Colonial Militia, about which very little is known at present, and already he has set himself a very wide scope. In his letterpress and admirable drawings we see presented to us not only the uniforms of regiments of the Army which survive to-day, but also of those who gained renown in the campaigns of William III and Marlborough and suffered disbandment; besides the Scottish Army before the Union, the Artillery, Marines, Militia and General Officers. An introductory chapter deals with such uniform as was worn by our soldiers from 1346 to the rise of the Standing Army in 1660. Colours, head-dresses, weapons, hair-dressing, all receive proper attention, and the 202 pages of letterpress are accompanied by no less than 118 illustrations in black and white, besides one large plate in colour.

We admire the courage of Mr. Lawson in tackling such a portentous subject, and congratulate him on the undoubted success of his efforts. Although he has had to finish off the book in his spare time while engaged on a military Government job, it is in no sense a work that has been rushed out as a war time speculation, but is the fruit of several years of hard study.

The 25th Army Brigade, R.G.A., on the Western Front in 1918. By C. S. B. Buckland. (Blackwell.) 7s. 6d.

The 25th Brigade, R.G.A., was one of those rare formations—numbering roughly one to each Army Corps—which were composed of super-heavy howitzers and of long range and partly super-heavy guns.

Some of the howitzers fired shells weighing almost two-thirds of a ton, while the range of the guns varied from ten to sixteen miles. It is interesting to note that the Royal Navy contributed one of the largest pieces of ordnance in the Brigade. This piece, the gun and carriage of which weighed some 180 tons, is believed to have formed part of the main armament of H.M.S. "Cornwallis."

The problems involved in the tactical handling of this formation were thus exceptional, and the zone of country covered by its fire was far more extensive than that of a normal artillery brigade. This tends to give the author a wide outlook on military problems and adds considerably to the value of the book.

REGIMENTAL HISTORY

The King's Own. Edited by Colonel L. I. Cowper, O.B.E., D.L. (Oxford University Press.)

The history of The King's Own is published in two volumes, the first covering the period 1680-1814, and the second 1814-1914. No soldier could read the chapter in the first volume on the Napoleonic Wars without being struck with the extraordinary resemblance of those times to the circumstances of the present day. Then, as now, we were threatened with invasion from across the narrow seas. The whole length of the South Coast had been put in a state of defence; camps were established and a brigade of the Regular Army was stationed at Shorncliffe under the command of General Sir John Moore. The King's Own formed part of this brigade, which held the coast from Deal to Dungeness, immediately opposite to Napoleon's *Grand Armée*, the immense mass of whose tents could be distinguished on a clear day. Sir John Moore's brigade stood, therefore, at the post of greatest

danger and acted as the advanced guard to the whole system of defence in the country. This fact gave to the commander such moral power that he was enabled to call upon the troops under him for exertions previously unparalleled. According to an officer who served in this camp, the soldiers "acquired such discipline as to become an example to the Army and proud of their profession," while the brigade reached the highest standard of efficiency. The King's Own, like the other units, benefited enormously from this hard training, the results of which must have stamped them for generations with the hall-mark of professional excellency.

The text is illumined by a large number of maps and plates and is supported by a detailed index.

ADDITIONS TO THE LIBRARY

GENERAL

- A SHORT COURSE IN ELEMENTARY METEOROLOGY. By W. H. Pick. 5th Edn. 8vo. (H.M.S.O.). 2s. 6d.
- RIDDLE OF HELL'S JUNGLE. By Schulz-Kampfenkel. 8vo. (Hurst & Blackett, Ltd.). 16s.
- THE PISTOL IN WAR. By Captain E. H. Robinson. 8vo. (Gale & Polden, Ltd.). 2s. Presented.
- CANADA, EUROPE AND HITLER. By Watson Kirkconnell. 8vo. (Oxford University Press). 8s. 6d. Presented.
- EUROPE ON THE EVE. By L. L. Schuman. 8vo. (Robert Hale, 1939). 18s.
- THE WYNNE DIARIES, Vol. III, 1798-1820. Edited by Anne Fremantle. 8vo. (Oxford University Press). 21s. Presented.
- THE DEVELOPMENT OF MODERN FRANCE (1870-1939). By D. W. Brogan. 8vo. (Hamish Hamilton). 21s.
- THE GOVERNOR'S LADY—MRS. KING. By M. Bassett. 8vo. (Oxford University Press). 10s. 6d. Presented.
- CLEMENCEAU. By Leon Daudet. 8vo. (W. Hodge & Co., Ltd.). 12s. 6d. Presented.
- THE ART OF MODERN WARFARE. By Colonel H. Foertsch. 8vo. (Veritas Press, New York). \$2.75. Presented.
- THE VOYAGES AND COLONISING ENTERPRISES OF SIR HUMPHREY GILBERT. 2 vols. Edited by David B. Quinn. 8vo. (Hakluyt Society, 2nd Series, Vols. 83 and 84).

NAVAL

- THE BATTLE OF THE RIVER PLATE. By Lord Strabolgi, R.N. 8vo. (Hutchinson & Co.). 7s. 6d.

MILITARY

- A KEY TO VICTORY. A STUDY IN WAR PLANNING. By Lieut.-Colonel C. Garsia. 8vo. (Eyre & Spottiswoode). 10s. 6d. Presented.
- A HISTORY OF THE UNIFORMS OF THE BRITISH ARMY. Vol. I. By C. C. P. Lawson. 8vo. (Peter Davies). 12s. 6d. Presented.
- MILITARY MAPPING AND REPORTS. By Brigadier-General W. Allason. 8vo. (Duckworth). 2s. Presented by the Author.
- ALLENBY—A STUDY IN GREATNESS. By General Sir A. Wavell. 8vo. (Harrap). 18s. Presented.

REGIMENTAL HISTORIES

A HISTORY OF THE SINGAPORE VOLUNTEER CORPS, 1854-1937. By Captain T. M. Winsley, S.V.C. 8vo. (Government Printing Office, Singapore, 1938). Presented by Lieut.-Colonel E. Foster Hall.

THE 25TH ARMY BRIGADE, R.G.A., ON THE WESTERN FRONT IN 1918. By C. S. B. Buckland. 8vo. (Basil Blackwell, Oxford), 7s. 6d. Presented.

THE KING'S OWN. THE STORY OF A ROYAL REGIMENT. 2 Vols., 1680-1914. Edited by Colonel L. I. Cowper. 8vo. (University Press, Oxford). Presented.

FOYLES

**BOOKSELLERS TO THE WORLD
QUICK AND EFFICIENT POSTAL SERVICE**

New and secondhand Books on every subject. Special department
for Naval and Military Books. Stock of nearly three million volumes.

113-125, CHARING CROSS ROAD, LONDON, W.C.2

Telephone: Gerrard 5660 (16 lines)

— BOOKS —

Hugh Rees Ltd.

Military, Naval and
General Booksellers,
Stationers & Publishers

47 PALL MALL, S.W.1

FRANCIS EDWARDS LTD.

keep a good stock of
second-hand NAVAL &
MILITARY BOOKS, also
TRAVELS & GENERAL
LITERATURE.

Catalogues sent post free on application.

**83 MARYLEBONE HIGH STREET
LONDON, W.1**

Coloured Frontispieces

Copies of many of the Coloured
Frontispieces published in the R.U.S.I.
Journal, on art paper suitable for
framing, can be supplied, price 6d.
post free. Apply to Secretary.



REMEMBER Two Steeples No.83

quality when you want a
good pair of socks.

FROM ALL HOSEIERS

— GEN. SIR ARCHIBALD WAVELL —

K.C.B., C.M.G., M.C.

ALLENBY

a study in greatness

"An accomplished and timely biography."—MAJ.-GEN. R. POPE-HENESSY
(*Sunday Times*)

"Three factors have combined . . . the skill of the very competent biographer; the crescendo of interest, culminating in one of the most brilliantly conceived victories in history, and last and most, the rugged splendour of Allenby's character."—SIR RONALD STORRS (*Spectator*)

With illustrations and maps 18/- net

A HARRAP BOOK

THE SOCIETY FOR NAUTICAL RESEARCH

(Founded 1910)

Patron :

H.R.H. THE DUKE OF KENT, K.G., K.T., G.C.M.G., G.C.V.O.

THE OBJECTS OF THE SOCIETY :

To encourage research into nautical antiquities, into matters relating to seafaring and ship-building in all ages and among all nations, into the language and customs of the sea, and into other subjects of nautical interest.

The Society has erected a Monument to the Van de Velde in St. James's, Piccadilly; raised £107,000 to save Nelson's Flagship and has superintended the restoration of H.M.S. "VICTORY" to her appearance at Trafalgar; paved the way to the establishment of a National Maritime Museum at Greenwich and a Victory Museum at Portsmouth; organised Exhibitions of Nelson Relics and Naval Prints, etc., at the Guildhall, Whitechapel, Plymouth, Birkenhead and Hull; and issued sundry periodical publications dealing with Nautical Archaeology, including a cheap set of official plans (ten in number) for building a model of H.M.S. "Victory."

The annual subscription of one guinea entitles members to receive admission tickets to H.M.S. "Victory," "The Mariner's Mirror" (an illustrated quarterly journal of over 100 pages), the Annual Report (100-200 pp. illustrated); to attend the Annual Meetings, which have been held at the Royal United Service Institution, Trinity House and the Royal Naval College, Greenwich, and the Annual Lectures which have been held at the Fishmongers', Clothworkers', Salters' and Drapers' Halls and have dealt with "The Great Harry," Primitive Craft, Samuel Pepys, Coastal Craft, Harrison's Timekeepers, and Flags in Marine Art.

For particulars of membership apply to—

THE DIRECTOR, NATIONAL MARITIME MUSEUM, GREENWICH, S.E.10

NOW READY.

THE CAVALRY JOURNAL

HORSED AND MECHANIZED



Published under the authority of the Army Council, under the direction of Lieut.-General The Lord BADEN-POWELL, O.M., G.C.M.G., G.C.V.O., K.C.B., D.C.L., LL.D., Field Marshal Sir P. W. CHETWODE, Bt., G.C.B., O.M., G.C.S.I., K.C.M.G., D.S.O., General Sir GEORGE DE S. BARROW, G.C.B., K.C.M.G., Lieut.-General Sir A. E. W. HARMAN, K.C.B., D.S.O., Lieut.-General A. F. BROOKE, C.B., D.S.O., Major-General J. BLAKISTON-HOUSTON, C.B., D.S.O., and Major-General T. T. PITMAN, C.B., C.M.G. (Managing Editor).

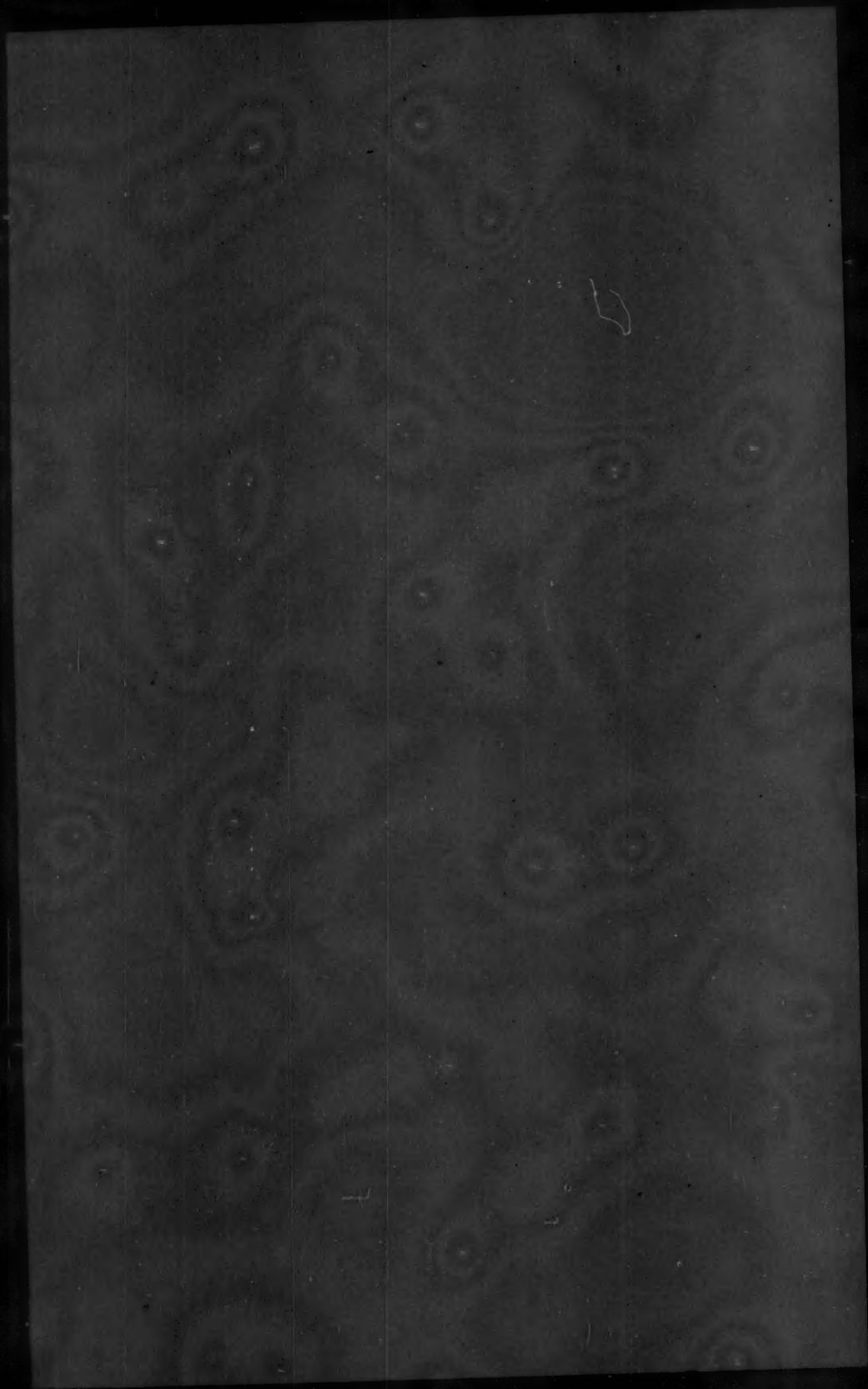
PUBLISHED QUARTERLY. Price 5s. net.

No. 117. JULY, 1940.

CONTENTS.

Trumpet Major Weldon, 13th Light Dragoons. (Frontispiece). Correspondence. Our War Postscript. The Bowler Vale Hunt Point-to-Point. By Major Oskar Teichman, D.S.O., M.C., T.D. Sniping and Observing in War Time. (Illustrated). By Richard Clapham. German Battle Dress To-Day. (Illustrated). By Lieut.-Colonel B. G. Baker, D.S.O., F.R.G.S., F.R.Hist.S. Democracy and the New Discipline. By "Aiguillette." A Master of His Craft. (Illustrated). By Colonel F. A. Hamilton, late 3rd Cavalry, I.A. The First Afghan War (1839-1840). By Captain R. V. Taylor, 16th/5th Lancers. Tut-Ankh-Amen's Trumpets. (Illustrated). By Major T. J. Edwards, M.B.E., F.R.Hist.S. German Mechanized Formations in Poland. (Map). Wassmuss. (Illustrated). By Colonel F. A. Hamilton, late 3rd Cavalry, I.A. The Third Three Months of the War. By Observer. The Role of Cavalry. The Value of Horse Shows in Fostering the "Esprit Cavalier." (Illustrated). By Captain F. C. Hitchcock, M.C., F.R.Hist.S. Home and Dominion Magazines. Recent Publications.

ALL SUBSCRIPTIONS should be sent to, and all copies obtained direct from
The Royal United Service Institution, Whitehall, London, S.W.1.



Best Value in London

HOTEL YORK

BERNERS STREET, LONDON, W.1

**Offers specially reduced
terms to members of
H.M. Forces and their
families**

BED, BATH AND BREAKFAST

From 8/6^d.

Telephone: Museum 6862.

Telegrams: Include, Rath, London.

BERNERS HOTEL

BERNERS STREET, LONDON, W.1

**Offers specially reduced
terms to members of
H.M. Forces and their
families**

BED, BATH AND BREAKFAST

From 10/6^d.

Telephone: Museum 1629.

Telegrams: Berners Hotel, Rath, London.

Hot and cold running water, telephone and free electric fires in every bedroom.
Conveniently situated for the main shopping thoroughfares and all theatres.

OFFICERS' STICKS AND CANES

A LARGE AND VARIED SELECTION IN STOCK



THE "THREE
CORNERED"
52/8

STICKS

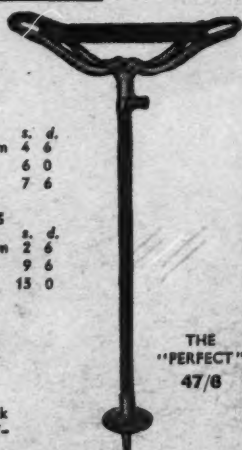
	s.	d.
Ash	from	4 6
Cherry	"	6 0
Blackthorn	"	7 6

"SWAGGER" CANES

	s.	d.
Rattan, etc.	from	2 6
Leathered Covered	"	9 6
Torch Stick	"	15 0

**SWORD STICKS
LOADED STICKS
MATRAQUES**

Every type of Seat-Stick
kept in stock from 15/-



THE
"PERFECT"
47/8

THOS. BRIGG & SONS LTD

23 St. James's Street

Piccadilly

S.W.1

"The R.U.S.I. Journal" is published on the 25th day of January, April, July
and October of *each* year.

Registered for Transmission to Canada by Canadian Magazine Post.

